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CAPITAL AND INTEREST ONCE MORE: I. CAPITAL *VS.* CAPITAL GOODS.

THE many efforts which the human mind has made to solve the difficult problems of capital and interest have been much added to during the last few years. The largest and most important part of the new literature has been in English. Not to mention many shorter papers and essays, I received since the year 1889 not less than six complete treatises which grapple with this problem, some of them with this alone, and some with this as part of a general exposition of economic theory. Chronologically first and planned on a generous scale is the work of Professor Clark on the *Distribution of Wealth*.[1] Others are the monographs of Professors Carver[2] and Cassel,[3] and the text-books of Professors Seager,[4] Fetter,[5] and Seligman.[6]

[1] Macmillan, New York, 1899.
[2] *Distribution of Wealth*, Macmillan, New York, 1904.
[3] *The Nature and Necessity of Interest*, Macmillan, London, 1903.
[4] *Introduction to Economics*, Henry Holt, New York, 1904.
[5] *The Principles of Economics*, The Century Company, New York, 1904.
[6] *Principles of Economics*, Longmans, New York, 1905.

I believe I shall make no mistake in considering the first-named work as that which proposes the greatest changes from the traditional treatment of the subject; and I think that I am not mistaken in believing that during the comparatively short time since the appearance of Professor Clark's book there are significant and increasing indications of the influence which his special doctrines exercise, not only in his own country, but elsewhere also. I have, therefore, every ground for giving attention above all to Professor Clark and to his work.

I have read Professor Clark's admirable book with the double pleasure derived from a work which is at once a scientific achievement and a work of art. Professor Clark has a gift of shaping and ordering his matter, of animating it by attractive form, and of illuminating it with striking illustrations, which has a near relation to the talents of an artist or poet. The pleasure of reading was long undisturbed. I was delighted with the clear and comprehensive statement of the main problems, the exposition of the several tasks of economic science, the clear formulation of the hypotheses underlying static laws, the plastic art with which the realization of abstract laws under concrete conditions was described. I found myself in agreement with Professor Clark on certain fundamental points, as on nature and origin of value and on the principles of substitution and imputation, and long had the impression that no conclusions could follow from such premises which would not recommend themselves to me.

Nevertheless, to my great regret, the point was reached where I had to differ. Our paths of reasoning began to diverge, at first slightly, then more and more, on a subject which had already been the occasion of scientific controversy between us. This is the noted conception of "true capital" (formerly called by Clark "pure capital") as a "permanent abiding fund," to be distinguished from the

"capital goods" in which this fund is at a given time embodied.

Some years ago I had occasion to sound a note of warning against this conception, on the ground that it departed from solid contact with concrete facts and ascribed reality and exactness to notions which were hardly more than figures of speech. Professor Clark then replied, and a discussion ensued in the columns of this journal, which may have removed some misunderstandings, but left neither contestant convinced.[1]

I am aware that the conception of capital which I then criticised has rather gained than lost in scientific prestige during the years. Professor Tuttle has recently declared it in these columns "the most notable of the many important contributions of this brilliant writer."[2] Professor Seager's exposition comes very close to the Clarkian mode of treatment.[3] There are echoes of it in the writings of Cassel and Seligman.[4] Professor Fetter, whose treatment of the theory itself differs distinctly from Clark's, yet makes his bow to that writer's treatment of capital.[5] Professor Carver, to be sure, differs without qualification: "Capital is not value, but things."[6]

If it were simply a matter of definition, I should not again take up my pen. In matters of definition and name the choice is commonly not between the true and the false, but between the serviceable and non-serviceable. As

[1] See Professor Clark's essays, "The Genesis of Capital," *Yale Review*, November, 1893; "The Origin of Interest" in the *Quarterly Journal of Economics*, April, 1895; and "Real Issues concerning Interest," *Ibid.*, October, 1895; and my article on "The Positive Theory of Capital and its Critics," *Ibid.*, January, 1895.

[2] *Quarterly Journal of Economics*, November, 1904, p. 88, note 1.

[3] Compare, for example, his *Introduction*, p. 126.

[4] For example, *Nature of Interest*, p. 167; *Principles of Economics*, pp. 215, 265, 318, 392 ff., and elsewhere.

[5] "Capital is the value equivalent of a sum of money 'invested,' 'clothed' in forms of wealth purchased and exchanged." *Principles*, p. 115.

[6] Carver's *Distribution of Wealth*, p. 219.

Professor Clark has remarked with perfect truth,[1] "It may, indeed, be possible to carry through an entire study of economic science the conception of phenomena arranged in an abnormal manner." Bad terminology is like an imperfect and perhaps dangerous tool, with which a master may none the less achieve the right product, even tho with difficulty. Such seemed to me the situation in 1895. I then warned against the conception of "pure capital" as distinguished from "capital goods" as a dangerous one, but added that Professor Clark had succeeded in keeping free from the erroneous conclusions which might be derived from his dangerous premises.

The situation has now changed. In his *Distribution of Wealth*, Professor Clark has based on this conception an explanation of interest which seems to me erroneous. This explanation does not solve the problem, but evades it. Under these circumstances, notwithstanding Professor Clark's high authority, the more because of that authority, I think it my duty to resume the controversy.

Professor Clark objects to considering capital as a total or a quantity of "capital goods." "Capital goods" are concrete instruments of production, such as raw materials, machines, tools. Professor Clark reckons land also in this class, a point upon which there may be difference of opinion, but which does not here concern us.[2] Capital itself, however, or "true capital," is something different. Professor Clark cannot say enough, in repeated and richly varied phraseology, of this distinction. Capital is "a sum of productive wealth, invested in material things which are perpetually shifting"; "a *quantum* of matter of the kind

[1] Clark's *Distribution of Wealth*, p. 150.

[2] I take this occasion to remark that I have not overlooked the recent rich and interesting literature on the definition of capital, in the important contributions of Professors Marshall, Irving, Fisher, Tuttle, and others. I do not here consider them, lest the discussion be unduly prolonged. I hope to consider these other phases of the subject on another occasion.

defined as producers' goods, measured in terms of value and having the characteristic of forever shifting its bodily identity"; "an endless succession of shifting goods always worth a certain amount"; or "a certain amount of 'money' permanently invested in a succession of perishable things, or finally, in short, "a permanent abiding fund of productive wealth."[1]

I should probably accede to all of these definitions, or to most of them, if it were permitted me to regard them as explanatory phrases towards some final definition, and this the obvious one by which capital is nothing more than the sum and substance of the productive instruments or capital goods which constitute it. Professor Clark and I agree on certain positive facts which he brings into sharp relief in his definitions. I, too, believe that capital is a "fund" or "quantum" of matter. I think it clear that any one who wishes to make an estimate of the size of this fund must measure it, not by counting the pieces or calculating their volume or weight, but by measuring it in terms of value—nowadays in terms of money. Finally, it will be admitted on all hands that the community's instruments of production, in distinction with (say) a collection of fossils or of incunabula, does not maintain itself by perpetuation of the individual pieces, but by a process of constant change and reproduction. To use two similes of Professor Clark's, a waterfall persists notwithstanding change of the falling water, a forest notwithstanding constant growth and felling of the trees. The same truth holds good (barring exceptions of the sort just noted) of almost anything described as a continuing total; thus, of the population of a village, the rolling stock of a railway, the faculty or student body of a university, the merchant marine of a country, the garrison of a fortress, and the like.

[1] *Distribution of Wealth*, pp. 118–121, and elsewhere.

If Professor Clark were to content himself with emphasizing matters of this sort, I should have no occasion to differ with him, or, rather, he would have no occasion to enter into controversy with me.[1] These things I have myself set forth in their proper places. But Professor Clark does not content himself with this. Like the true devotee, he wishes us to fairly abjure the notion that capital is made up of capital goods. This seems to him so dangerous an error that it will infallibly lead the analysis of capital into the wrong paths. Only if it be abandoned, is there prospect of solving the problem.[2]

The situation is curious. Professor Clark regards that as heretical and destructive which I, on my part, regard as so natural and obvious that I find difficulty in stating the grounds of my belief. The endeavor to give reasons for that which is a matter of course almost inevitably leads to the commonplace or to tautology. But let me call attention to something like this. How has one ever come to a conception of capital? It has been observed that all sorts of things, such as factory buildings, spinning machinery, hammers, wool, coal, iron (land also, if you wish), differ from consumers' goods in this regard, that they have a very real effectiveness in production. Hence the generic conception or definition for indicating this quality common to them all. Further, the need was felt, as with so many other conceptions, of indicating not only individual things of this kind, but groups or quantities of them; and something like an agreement was reached to use the word "capital" for this terminological purpose. My question now is whether it is not obvious that by "capital" we mean a sum of productive instruments,—precisely those instruments to which the generic term was applied. Capital is just as much a sum or number of productive instruments, of capital goods, as a forest is a

[1] See his article on the "Genesis of Capital," p. 306. [2] *Ibid.*, p. 302.

number of trees, a population a number of people, and a library a number of books. I need only cite Professor Clark himself. "Capital consists of instruments of production, and these are always concrete and material";[1] "capital consists in self-renewing goods";[2] "the concrete things that compose it"[3] and "helps to constitute it";[4] the capital of a railway is "its concrete and material outfit of instruments for carrying passengers and merchandise."[5] The capital of the world is pictured to us as "one great tool in the hand of working humanity—the armature with which humanity subdues and transforms the resisting elements of nature."[6] And from such expressions shall we suppose it to be wrong and sinful, or merely obvious, that this equipment of humanity is the whole of the concrete material instruments of production, of which, according to Professor Clark's own words, capital consists and of which capital is composed?

Oddly enough this is not Professor Clark's conclusion. Let us examine the ground on which he contests it.

His strongest ground is stated in the following terms: "The most distinctive single fact about what we have termed capital is the fact of permanence. It lasts, and it must last, if industry is to be successful. Trench upon it—destroy any of it, and you have suffered a disaster. . . . Yet you must destroy *capital-goods* in order not to fail. Try to preserve capital-goods from destruction, and you bring on yourself the same disaster that you suffer when you allow a bit of capital to be destroyed. . . . The point of sharpest contrast between capital and most capital-goods is, indeed, the permanence of the one, as compared with the perishability of the other."[7] Things so differently constituted, according to Professor Clark, cannot be identical.

[1] *Distribution of Wealth*, p. 116. [2] *Ibid.*, p. 265. [3] *Ibid.*, p. 269.
[4] *Ibid.*, p. 335. [5] *Ibid.*, p. 249. [6] *Ibid.*, p. 117. [7] *Ibid.*, p. 117 *seq.*

I believe that Professor Clark has allowed himself to be ensnared by a dialectic antithesis. The investigator has given too much play to the rhetorician, the economist to the grammarian. The nature of his error will be obvious from a trivial and very simple example. Does any one doubt that a table service for twelve persons consists of a real quantity of concrete things, such as plates, saucers, spoons, forks, knives? And yet here we have this same situation, that each one of these pieces is perishable, and that the housekeeper keeps the service intact for an indefinite period by steadily replacing what is broken or worn out. Here, too, we can say, by way of antithesis, "The service remains, the individual perishes." Would any one wish to base upon this state of facts, or rather upon this use of language, the scientific conclusion that the service is not identical with the totality of the pieces, but is an essentially different entity? What manner of entity should this be? Surely, not bodily different. Is there a different spiritual entity, which is embodied as a sort of soul in the plates and knives? The notion is absurd. Or there is, perhaps, no entity at all, but only a mode of speech, a mere abstraction? Hereof we shall have occasion to speak presently.

Is the crew of a ship, the garrison of a fortress, something different from the individuals who make up these totals? And, if something different, what in the world is it? Yet here, too, it might be said with the same antithesis, "The garrison of Gibraltar is something permanent, durable, maintaining itself through centuries, while not a single one of the soldiers constituting that garrison has lived through the centuries," whence one should conclude that the garrison is something different from the soldiers.

I think the actual facts which underlie all these attempts at distinction are easy to understand. A given species continues to be represented through a period of time by

individuals who always show the characteristics or earmarks of the species, and whose number numerically remains constant. In this sense it can be said that the species remains, tho the individuals change. But, obviously, the continuance of the species means simply the presence of the individuals who represent it at any moment. It would be a deceptive notion to suppose that there must be a third thing different from the individuals in order that the species may continue. Whatever is to be done by the garrison of the fortress or is to happen to the garrison must be done by the individuals or must happen to them. Whatever is to happen to capital must happen to the capital goods which constitute it or will not happen at all.

And what of this rhetorical antithesis which is so enticing to Professor Clark? It is nothing more than a rhetorical antithesis. It does not distinguish, as Professor Clark thinks it does, between concrete things, one of which remains, while the other disappears. This permanent, unchanging thing which he contrasts with the shifting realities exists only in the realm of thought as an abstraction. As a matter of fact, the garrison at Gibraltar is not always the same, tho ten thousand soldiers have held the fortress through the centuries. It is not the same capital which I own, if I have raw materials and machines to the value of one hundred thousand dollars this year and have capital of the same value next year. We think abstractly of certain qualities which the actual objects have in common from year to year. In thinking, for instance, of "my capital of one hundred thousand dollars," I have in mind only three things with regard to that capital; namely, productive instruments to the value of one hundred thousand dollars. A year later other articles may have the same three earmarks: the same conception applies to them. They are again "my capital of one hundred thousand dollars." This does not mean that the

two things are really identical. Very likely not one piece of my last year's possessions remains this year. Very likely this year's possessions differ in various ways from last year's, and are identical only in the three earmarks which characterize "my capital of one hundred thousand dollars." This degree of continuity suffices to justify the application of the same conception; but it is clear that the continuing element is not something embodied in the capital goods, but a mere combination of certain characteristics, which are pure abstractions. If anything is "embodied" in capital goods, it is not something different from them, but simply a definition of them.

It is significant that Professor Clark himself admits as much as this, in the midst of prolonged explanations which are designed to prove just the contrary. He feels that his true capital must be something real, no mere scheme, no empty abstraction, if it is to have the effects ascribed to it in explaining concrete phenomena, and especially the phenomena of interest. An abstraction cannot spin yarn or yield interest. He takes a vast amount of trouble to make it plausible that his true capital is not an abstraction, is "a material entity." This proposition he develops with constant variations of language, which make upon me the impression that they are as full of inconsistencies as of obscure mystical rhetoric. Were it not for the exigencies of space, I should quote in full four or five pages (116–121) of his book. I must content myself with some characteristic specimens.

At the very outset we find it expressly stated that capital has a "material existence," that it is always "concrete and material." It "consists" of concrete and material instruments of production. These propositions seem undeniable, but one wonders that they should be adduced in support of a conception of capital as something different from concrete and material instruments of production.

On the next page a bridge between these two opposite notions is built in expressions, already familiar to us, which distinguish the permanence of capital as its "most distinctive attribute" from the perishableness of capital goods. And, then, on the difference between "concrete" and "abstract" we find the following. A business man is put before us, who regards his capital as "embodied" in merchandise, fixtures, claims against customers. "A value, an abstract quantum of productive wealth, a permanent fund—that is what the hundred thousand dollars in our illustration really signify. A value, a quantum of wealth, or a fund—if one of these be thought of apart from the concrete things that embody it, it is an abstraction; but if it be thought of as actually embodied in concrete things, it is not an abstraction, but a material entity. . . . He [the business man] knows that his investment is concrete and material; and yet he instinctively thinks and speaks of it through the medium of an abstract expression."[1]

Professor Clark warns "carefully. . . against the idea that . . . capital ever lives in a disembodied state."[2] He speaks of the frequent use of abstract formulæ in every sphere of thought for describing *a concrete thing*.[3] He now relinquishes his former expression, "pure capital," because the word "pure" "suggests freedom from some admixture, and the admixture that is excluded is a combination with concrete objects, such as tools, etc."; and he goes on: "Yet it was not at all my intention to convey the idea that pure capital is something that can objectively exist without being in such a combination. It is, however, thought

[1] *Distribution of Wealth*, p. 119.

[2] *Ibid.*, p. 119; again p. 259: "The capital of society has no existence till it is in the shapes in which entrepreneurs use it. Till it is raw materials and tools for the manufacturer, merchandise for the retailer, vehicles for the carrier, etc., capital has no existence at all."

[3] *Ibid.*, p. 121.

of in ways in which, in the concept itself, it has to be freed from the combination. 'It lasts,' as we say, and 'it moves from industry to industry'; but the tools do not last, and they do not change their places as working implements. The fund, the 'dollars,' or the pure capital does these things. When one set of bodies perishes and another one replaces it, we say that capital continues, *and yet it is only an abstraction that has literally a continuous existence.* The concrete *embodiments of the abstraction* have only transient existences. With this understanding, pure capital might be termed capital in the abstract, though it is never objectively an abstraction."[1]

Let the unprejudiced reader judge for himself. What glaring contradiction is there, between saying that abiding true capital is "concrete and material," is a "concrete thing," "not an abstraction, but a material entity," and the final admission in so many words that "yet it is only an abstraction that has literally a continuous existence," and that perishable capital goods are embodiments of the abstraction? What a quantity of flowery expressions, of new words and new figures, which repeatedly try to build the bridge between the abstract and the concrete; and how, through all these efforts, we see clearly that this bridge consists of no more substantial material than words and figures! It is obvious that capital goods, although they are supposed to be distinct from pure capital, are put forward and must be put forward in order to give any actual point of connection with anything concrete and material. Then the facts are thrust into the background, and in the foreground we have these forms of speech and thought, which try to secure for the pretender the recognition which has been granted to capital goods. Instead of anything in the nature of proof we are to accept as evidence what a business man "thinks and speaks," or that

[1] *Distribution of Wealth*, p. 120, in the note. The Italics are mine.

"it lasts, *as we say*," or "*we say* that capital continues." The obvious objection that there is nothing concrete and material in capital apart from capital goods is evaded by the admission that true capital never exists independently, but only through its incorporation in concrete capital goods. The use of dialectics is here so reckless that it seems to me to turn into an involuntary disproof. Professor Clark, actually in support of his own reasoning, suggests to his readers that they shall convert the abstraction which we have in his fund of value into a "material entity," by giving it in their own thoughts this materialization. Is it to be seriously supposed that this need of having the concrete capital goods in our thought is any sort of proof that anything else than these concrete capital goods constitutes a concrete and material entity? On the contrary, is not this a palpable proof that these capital goods constitute the only concrete thing? Does not Professor Clark see that with this same dialectic recipe the most undoubted abstractions, as "virtue" or the conception of "goodness," can be converted into concrete things? The materialization of these abstractions can be brought about in thought by reference to concrete virtuous persons. On the only occasion on which Professor Clark appeals to facts and soberly inquires what really has a continuous existence, he has to admit that "it is only an abstraction that has literally a continuous existence"!

"To be or not to be." Does it exist or does it not exist? That is the question. The facts seem to me very simple. In reality, concrete capital goods, and capital goods ever shifting, are the only things that exist with a capacity to effect something. By way of abstraction, we have deduced from these the conception of capital. That conception does not work or produce, just as the conception of a hammer does not drive a nail. If we ascribe to capital any real

effect in production, we mean always the concrete capital goods. Professor Clark tries to intercalate a third notion between the abstract conception of capital and the concrete capital goods, and ascribes to this third thing a real existence as a material entity; which is simply an error. There is no such third thing. It has only a dialectic existence in our ways of speech. Language treats the concrete and the abstract in the same terms, and in this case is used to bedeck a phantom with the verbal attributes of existence.

The object of science is to disengage from their often deceptive externals the real kernel of facts. Such a phantom as Professor Clark's brings to science no gain, but only loss and confusion. Professor Clark is mistaken in thinking that his creation can guard him or economic science from any error or can bring any aid. For example, he maintains that the older economists, in their reasoning about the relation of wages to capital and the question whether the subsistence of laborers was part of capital, were led into error through the lack of his conception of capital. I, for my part, hope I have kept free from these errors, even tho I made no use of his conception of capital. The advance in the scientific treatment of these topics seems to me to rest upon an entirely different distinction, and one which Professor Clark does not develop; namely, the distinction between producers' and consumers' capital.[1]

Professor Clark repeatedly maintains that there are propositions which are tenable with reference to capital, but which are not tenable with reference to capital goods. Here there are only two possibilities. Either we have simply verbal expressions, rhetorical forms, which can be applied literally to "capital" only, but not to "capital goods," although with some variation in phraseology the propositions can be applied to both. In this case there

[1] So far as I can see, Professor Clark has in mind only producers' capital. I suspect he would find himself in difficulties if he had to explain, for example, the net income which a banker draws from his villa when he happens to let it.

may possibly be some gain in style, some attractive form of speech, but certainly no enriching of our understanding of the facts. Or, on the other hand, the propositions which have been laid down as to "capital" cannot be applied to "capital-goods," either literally or with any possible variation of phraseology. Their content in thought cannot be verified as to "capital goods." There they are certainly false, and lead not to better understanding, but simply to error.[1]

In the first class, of harmless turns of phrase, belongs the proposition as to the permanence of capital. "Capital," on pain of disaster, "may never cease to be." The language here used cannot be transferred without a distortion of its meaning from "capital" to "capital-goods," just as such an expression as that "the fleet was split into three parts by the attack of the enemy" cannot be literally applied to the individual ships. The same thought can be expressed in language which avoids all figures of speech by saying, "The ships which previously constituted a single fleet were split by the enemy's attack into three groups." So in the case of capital it might be said, "In order that the community shall not suffer, the whole value of the capital-goods, which are constantly changing, must remain undiminished." I am unable to see that an investigator who keeps this actual state of things constantly before his mind, and bases conclusions on it, suffers any disadvantage as compared with another who applies to the same facts the phrases about "permanent capital."

The question may be raised how far an investigator is permitted to carry the use of this and similar figures of speech. I would not preach asceticism in style, or be so pedantic as to condemn every mode of expression which departs from a literal statement of facts. I do not myself hesitate to use figures of speech. Harm ensues only if the

[1] See, for example, *Distribution of Wealth*, p. 121, note.

investigator allows himself to be misled by such metaphors, and, instead of keeping in view steadily the actual facts, puts before his eyes something which is only a creation of speech.

Let us now take an example of the second and dangerous consequence of Professor Clark's mode of dealing with the subject. Such appears, it seems to me, in the proposition stated on page 118 and again repeated on page 258, that "capital is perfectly mobile," "absolutely mobile," while capital goods are not.

Professor Clark maintains that "it is possible to take one million dollars out of one industry and put them into another," but that this is quite impossible as to capital-goods. The instruments used in a whale fishery cannot be transferred to cotton manufacturing. Thence Professor Clark deduces a proposition that capital as distinguished from capital goods is perfectly mobile—a proposition which, like that on the permanence of true capital, serves to disprove the identity of capital and capital goods.

But Professor Clark cannot really believe that such a change can take place on an unlimited scale, that a thousand million dollars can change occupation as easily as a million dollars; that there can be a transmigration of all the capital of the United States into different industries, its transfer into other "material bodies." If not, how maintain that "perfect," "absolute" mobility which Professor Clark ascribes to true capital?

We grasp the truth readily, if we set aside resounding phrases and look soberly at the facts. In regard to these I am quite in accord with Professor Clark as he describes them in various passages (for instance, p. 341). In fact, not unfrequently Professor Clark gives two versions of the same phenomena, one in simple terms quite in accord with the facts, and the other in artificial expressions which refer everything to that favorite creature of his imagination,

true permanent capital. It is certain that there are comparatively few instruments of production (Professor Clark mentions land as one of them) which can change their mode of use without actual loss. In most cases such a change can take place only with considerable loss, with some diminution in efficiency, or with some expense for remodelling. If for any reason it becomes desirable to diminish the capital used in any one branch of production and to increase the capital used in another, the change takes place only in slight degree by the actual transfer of concrete capital goods. Ordinarily it takes place through the wearing out of those capital goods which it is desired to diminish in quantity, and the creation in their place, not of the same instruments, but of others of a different kind. In every industry there are many forms of capital goods which wear out quickly and have to be constantly renewed. Hence, as a rule, it is possible to effect transfers of this kind quickly and without great loss. The existence of durable instruments, which wear out but slowly, may cause long delay in the process.[1]

Such are the facts on which both of us have agreed. Now I ask, How are we to conceive these facts, if the phrases about the perfect and absolute mobility of true capital are not empty words, but scientific truth? Perfect mobility is supposed to be a universal characteristic of true capital, belonging to it irrespective of capital goods in which the true capital is embodied. In contrast to the incomplete mobility of capital-goods, this mobility of capital is supposed to be absolute and complete. Can this mean anything else than that true capital can betake itself with absolute ease and freedom to another form and another use?[2]

[1] *Distribution of Wealth*, pp. 341, 342; also 278.

[2] "The goods that embody the capital are as fettered in their movements as *the capital itself is free*" (p. 257).

But would Professor Clark maintain that there is any fact of this sort? Does not every fact which he adduces indicate precisely the opposite; namely, that the transfer and transformation of capital in fact takes place not without limit or without conditions? Secondly, is not the extent and rapidity of this change dependent upon the concrete nature of the capital-goods? The change takes place rapidly and easily, if the capital goods are easily susceptible of use in a different occupation,—coal, for example, or pig iron,—or if they are such as wear out rapidly. And the change takes place slowly, perhaps not at all, if the capital-goods are of a kind which cannot be used for another purpose, or are so durable that their replacement is necessarily spread over a long period. The whole subject of the transfer of capital must be studied with reference to capital-goods.

The fact that a later generation of capital goods consists of other constituents, and perhaps is differently apportioned among the various branches of the industry, may be expressed in a figure of speech, and with a sort of personification, by saying that capital, which is movable, has changed its form and its mode of use. To such a statement I have nothing to object, so long as it is clearly borne in mind that it is nothing more than a figure of speech. But it is not to be supposed that the understanding of the actual situation is thereby promoted, still less that anything is understood which before was not understood. And when this figure of speech is finally carried to the point where it no longer conforms to reality, then there is simply a mistake in fact: Clark's perfect and absolute mobility is, to put it plainly, perfectly and absolutely false.

Professor Clark has saved himself, in the course of his own exposition, from obvious inconsistency with the facts, because he has been careful not to take his words too

literally. As has already been observed, he develops a second and very sober treatment of this same subject of capital goods, and steadily uses only such examples and arguments as fit this second realistic treatment. He adduces as an example of the perfect mobility of capital, the transfer of a million dollars from one branch of industry to another. The example does not suggest anything impossible, because in an economic organization as huge as that of the United States it is quite possible that concrete capital goods of this value, even to a much greater value, fulfil the conditions for easy transfer and easy replacement. But, if the sum mentioned were a thousand or ten thousand times as great, the example would have shown clearly the impossibility of the change assumed, and Professor Clark has been careful not to select such an example. And wherever he makes a practical application of his proposition, he never fails to say with much emphasis that the process of transferring "true capital" does not take place in the smooth and rapid manner which would result from absolute and perfect mobility, but with those obstacles and delays which result from the material constitution of concrete capital goods.[1] And where by way of exception he suggests, tho without absolutely stating it, a sudden and frictionless transformation, he invokes the hypothesis of "magic."[2] Here Clark, the shrewd observer of facts, has exercised a friendly control over Clark, the imaginative artist in words, and has prevented him, if not from expressing error, at least from drawing erroneous practical conclusions. Unfortunately, as will appear in the sequel, the empirical Clark has not always exercised this same degree of watchfulness.

Another of those glittering antitheses to which Professor Clark has given too much place in the development of his scientific conclusions, sets forth that capital goods

[1] *Distribution of Wealth*, p. 278. [2] *Ibid.*, p. 251.

"ripen" into consumable goods and have to do with phases of development and periods of production. True capital has no such characteristics. "Capital . . . has no periods. . . . Capital, as such, does not originate, mature and then exhaust itself. . . . No permanent capital ever ripens and begins to minister to direct wants: immaturity is of the nature of capital."[1]

This antithesis has the same character, and as much and no more value in explaining the facts as others of the same sort; for instance, that individual caterpillars go through phases of development and eventually become butterflies, but that the caterpillar "as such" never becomes a butterfly; or that children become men, but that "childhood as such" never becomes "old age." If the object here is only to state in an effective figure of speech the commonplace fact that capital goods ripen into consumable goods, and caterpillars become butterflies, but that these things do not pass out of the earlier stage into the later so long as they belong to the class of capital goods or the species of caterpillars—that capital never includes the consumable goods, and that caterpillars never include butterflies—then there is no objection to the phraseology. But surely no one can believe that it leads to any new understanding of the phenomena. If, however, such antitheses mean more, if they are supposed to bring new important information about a second set of things with different powers and different qualities, to show that things happen with "true capital" or with "capital as such" which are realities and which are different from the things which happen to the concrete things or the living caterpillars, then they are simply deceptive. What would the biologists say if a colleague of Professor Clark were to maintain that in addition to the concrete caterpillars, which ripen into butterflies, there is in nature something

[1] *Distribution of Wealth*, p. 128.

else which never gets beyond the stage of unripeness, of caterpillarness, which has no phases, and which, nevertheless, leads to the eventual appearance of the butterflies; and if such an innovating biologist were to maintain that the biological conditions of the lepidoptera could be understood only by referring them to a permanent and non-developing entity which always had the qualities of caterpillar, but never was really caterpillar and never became a butterfly?

I fear that Professor Clark falls into error no less grave when he maintains that there are actual happenings in the production of commodities, in which capital plays its part, but in which the interval between production and consumption is done away with, and in which labor and its fruits are "synchronized." But here I touch on a matter which cannot be briefly disposed of. I do no more than touch on it, because it belongs not to this preliminary discussion of the question whether Professor Clark's conception of capital is or is not a happy scientific device, but to the more essential question to which I shall next turn; namely, whether Professor Clark has given an explanation of interest which is in substance satisfactory. To this problem I shall turn in the following paper.

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THE INTERSTATE COMMERCE ACT AS AMENDED.

ANALYSIS and criticism of the Interstate Commerce Act as recently amended, which is the purpose of this article, may properly be introduced by a sketch of its legislative career. Altho the reports of the Interstate Commerce Commission have almost from the beginning contained urgent recommendations for amendment and modification of the statute, no significant change has been effected since its enactment, with the exception of the Elkins Act of 1903, which may be regarded as an amendment of the law. Credit for making rate regulation an immediately practical legislative problem is due to President Roosevelt, who in his annual message of 1904 recommended legislation vesting power in the Commission to prescribe rates upon complaint and after full hearing, such rates to be effective until reversed by a court of review.

The House of Representatives proceeded at once to the consideration of the problem, and on February 9, 1905, passed the Esch-Townsend bill by the extraordinary vote of 326 to 17. The railroads, thoroughly alarmed, prevailed upon the Senate to postpone consideration of the subject for a year, in order to give them time to present their case, and in accordance with this request the Senate on February 24 adopted a resolution instructing the Senate Committee on Interstate Commerce to sit during the recess of Congress for the purpose of taking testimony and considering plans for railroad rate regulation. This committee held sessions lasting until May 23, in which railroad representatives, shippers, government officials,

and students of the question were given an opportunity to be heard. Their report,[1] with appendices, in five volumes, together with the *Digest*,[2] prepared by Messrs. Adams and Newcomb, is the most valuable source of material in existence on the present problem of railroad control in the United States. But the railroads did not confine themselves to testimony before this body. They carried on an educational campaign such as has been rarely witnessed in this country, organizing publicity bureaus in charge of expert students of the railroad question, and flooding the country with literature in support of the railroad position. In spite of all their efforts popular sentiment in favor of endowing the Commission with greater powers grew steadily, and was strengthened by the revelations in the summer of 1905 of abuses in connection with private car lines, by disclosures of discriminations in favor of the Standard Oil Company, and by the publication of the facts in the Santa Fé rebate case,[3] which involved indirectly a member of the President's cabinet.

As was to be expected, the President renewed his recommendations for rate regulation in his message of 1905, but in slightly modified form. On February 8, 1906, the Hepburn bill, which contained many features of the Esch-Townsend bill of the previous session, passed the House by a vote of 346 to 7. A majority of the Senate Committee on Interstate Commerce voted on February 23 to report the bill unamended to the Senate. But the conservatives of the committee, who were opposed to legislation so radical, succeeded, with the purpose of discrediting the measure, in having it put in charge of Senator

[1] Hearings before the Committee on Interstate Commerce, Senate of the United States, Washington, 1905. Hereafter cited as *Senate Committee Report.*

[2] *Digest of the Hearings before the Committee on Interstate Commerce, Senate of the United States.* Compiled by Henry C. Adams and H. T. Newcomb, December 15, 1905. Hereafter cited as *Digest.*

[3] 10 *Interstate Commerce Commission Reports*, 473.

Tillman, a Democrat and one of the President's bitterest opponents. The bill was, consequently, put into its final shape on the floor of the Senate, and this method of procedure brought forth as brilliant and able a debate as the Senate has known for many years. Party lines were never drawn. The radical Republicans combined with a majority of the Democrats against the great body of conservative Republicans, and every step in the framing of the measure was stubbornly contested. Extensively amended, the bill passed the Senate with but three dissenting votes,[1] on May 18. A week later the House disagreed to all amendments and sent the bill to conference. The report of the conference committee made on June 2 proved unsatisfactory, and was rejected by both bodies. A second conference report met the same fate, and it was not until June 28 that the measure finally emerged in an acceptable form. It was passed and signed the following day, and by joint resolution became effective on August 28. The final controversies, which thus took so long to compose, were concerned largely with pipe-lines, passes, sleeping-car and express companies, and the transportation by railroads of products owned by them.

In its final stages the measure was powerfully aided by a somewhat extraordinary series of events, which exerted a very apparent influence upon the Upper House of Congress. These events included an anthracite coal strike, a report by the Commissioner of Corporations on the Transportation of Petroleum,[2] accompanied by a presidential message which called attention to extensive violations of the Interstate Commerce law, and an investigation by the Interstate Commerce Commission of the Pennsylvania Railroad in its relations with the coal companies, which revealed a discreditable and wholly un-

[1] Senators Foraker, Morgan, and Pettus.

[2] *Report of the Commissioner of Corporations on the Transportation of Petroleum*, May 2, 1906. Washington, Government Printing-office.

suspected condition of affairs, assumed by the public to be merely symptomatic of conditions among all roads similarly situated. All these, added to the revelations of the insurance investigation last fall, and the more recent disclosure of deplorable conditions in the packing industry, created so thorough a suspicion of corporate activity in general as to make the movement for more vigorous control of our transportation agencies irresistible.

A comparison of the measure which became a law with the Hepburn bill as it passed the House reveals the fact that, in the face of determined opposition, the country has secured a much more radical statute than the President or his supporters in the House had any reason to expect. This measure it is now our task to analyze briefly.

The new law widens materially the scope of the Commission's authority, and includes agencies of transportation that have heretofore been free from governmental control. The term "common carrier," as used in the act, now includes express companies, sleeping-car companies, and persons or corporations engaged in the transportation by pipe-lines of oil or other commodity except water or gas. Express companies have long been held to be common carriers in law,[1] but they have been exempt heretofore from any attempt at control. In the first year of its existence the Commission decided that the law was not sufficiently clear to warrant it in taking jurisdiction of any such companies except those conducted by the railroads as a part of their business. Consequently, it declined to exercise any authority over express companies at all. As a result, express companies have published no rates or traffic statistics and no financial reports.

[1] Compare Dixon, "Publicity for Express Companies," *Atlantic Monthly*, July, 1905.

So far has this policy of secrecy been carried that, in the case of one company, it has recently caused a revolt among minority stockholders. These great corporations now become subject to all the provisions of the act, as a result of which their rates will be regulated and published, their financial condition revealed, and, in the discretion of the Commission, their accounting systems prescribed. It remains to be seen, when these facts have been placed before the public, whether the claim by the express companies of a freedom from the practices of discrimination and undue preference will be sustained. Certain it is that complaints of excessive charges, so constantly made, will be presented for adjudication.

Sleeping-car companies insist that they are not common carriers, but merely equipment companies engaged in building and renting cars and in providing a special facility, and that they should not be held to be common carriers for the purposes of this act. Many courts sustain their legal contention. It is a question of little importance, however, as they will be reached under the definition of "transportation," which will be noted presently.

The monopoly in oil built up by the Standard Oil Company has been greatly aided by its pipe-lines, which have given it a dictatorial power over railroad rates. The timely appearance of Commissioner Garfield's report on the transportation of petroleum revealed a wholly unsuspected relationship between this corporation and the railroads, in which rebates and discriminations on an extensive scale were being granted, and led directly to the inclusion of pipe-lines as common carriers under the act. This makes possible the publication of rates open to all shippers and their regulation. But the practical situation is in the control of the Standard Oil Company, and it is very doubtful whether independent refiners will gain much advantage from the clause without additional

legislation. While many insist that the provision is unconstitutional, the fact that pipe-lines have, in some cases, enjoyed the right of eminent domain, would give ground for anticipating a decision of the Supreme Court in support of the statute.

The act extends the meaning of the word "railroad" to include switches, spurs, tracks, and terminal facilities of every kind, and all freight depots, yards, and grounds. "Transportation," which, in its indefinite form under the old law, included "all instrumentalities of shipment or carriage," now includes cars and all other vehicles, and all instrumentalities of shipment or carriage irrespective of ownership or contract, and all services in connection with the receipt, delivery, elevation, transfer, ventilation, refrigeration, storage, and handling of property transported. Every carrier is obliged to provide such facilities upon reasonable request, and to establish reasonable rates applicable thereto.

Rebates and Discriminations. The Elkins Act of 1903, prohibiting departures from the published rate, has doubtless done away with many of the common forms of rebating. Most of the witnesses before the Senate Committee were of the opinion that rebates had either wholly ceased or were much less frequent than formerly. This was also, for a time, the opinion of the Commission; but in its last published report, that for 1905, it finds itself compelled to admit that the giving of rebates has been resumed. Whatever may be the situation as to the simple rebate, there is no question that new and elaborate devices have been employed on a large scale for the purpose of evading the statute. Among these the most important are the private car and the industrial railroad. The practical monopolization of refrigerator equipment by one corporation, and the identity of car-owner and shipper, are responsible for the evils, and the testimony before the

Senate Committee is filled with allegations of exorbitant rates for refrigeration, icing, and special forms of packing, and with the difficulties that shippers encounter in the settlement of damage claims because of the divided responsibility of railroad and car-owner. Carriers have refused to publish refrigeration charges, contending in reply to the demands of the Commission that icing and similar services are of a private nature, and are not under its control. Among the remedies suggested in the testimony were the provision of all special equipment by the railroads individually, the separation of car-owner and shipper by the formation of an equipment company, controlled by the railroads, that should take over all private cars, and the extension of the jurisdiction of the Commission to include the private car business. The last suggestion is the one adopted in the new law, which gives the Commission authority over all services performed by private-car lines, and expressly requires the publication separately of all terminal, storage, and icing charges, or those for any other facilities or privileges granted. The complaint of divided responsibility between railroad and car-owner has been met by holding the railroad responsible for the provision of such special equipment upon reasonable request.

The terminal railroad, variously known as the "tap-line," or industrial railroad, has been, in the judgment of the Commission, one of the most dangerous and effective means of evading the law. Such a road built by an industry to connect with a main line, instead of securing from the road to which it delivers its freight merely a reasonable switching charge, obtains an undue proportion of a through rate which amounts to a rebate. The new law extends the jurisdiction of the Commission over such connecting lines, and gives it power to determine a proper switching charge or a proper proportion of a through rate.

With the purpose of removing still further the danger of discrimination in the manipulation of these spur tracks, a clause has been introduced requiring a railroad, upon application of a branch line or shipper, to construct and operate upon reasonable terms a switch connection, where such connection is reasonably practicable and where business warrants it, and to furnish without discrimination cars for the movement of traffic. The Commission is given authority to make this provision effective by the issuance of an order which is enforceable in the same manner as are its other orders.

Another serious and elusive form of discrimination has been practised with special success by the coal roads. By virtue of being owners of coal mines and transporters of their own product, as well as that of independent operators, they have been enabled so to manipulate their books that it has been impossible for either the Commission or the courts to decide whether the advantage which they enjoyed over independent shippers should be regarded as a discrimination granted to themselves as carriers or a loss suffered by them as producers. The extraordinary situation revealed in the affairs of the Pennsylvania Railroad by the investigation of the Interstate Commerce Commission while the rate bill was under discussion in the Senate, combined with the sentiment fostered by long-continued troubles in the coal fields, resulted in the incorporation of a radical clause,[1] which provides that after May 1, 1908, no railroad will be allowed to transport in interstate commerce any commodity, other than timber or its manufactured products, produced by it or under its authority, or which it may own in whole or in part, or in which it may have any interest direct or indirect, except such as may be necessary and is intended for its use as a common carrier.[1] Many have

Since declared unconstitutional by U. S. Circuit Court (Judge Grey)

[1] The decision of the Supreme Court on February 19, 1906, in the case of the Chesapeake & Ohio Railway probably had much influence in the enactment of this clause.

vigorously contended that this clause will not bear the test of constitutionality, that a railroad in its function as common carrier may serve itself quite as properly as it may serve the public, and that this deprives the railroad as shipper of due process of law. If the clause is sustained, it will greatly simplify the enforcement of the whole act; for the dual nature of roads as carriers and shippers has made confusion of accounting and discrimination in favor of their own products easy, and violations of law difficult to establish. It will compel coal roads to divest themselves absolutely of all their coal properties, and will not permit them to evade the law by the creation of holding companies with merely nominal transfer of ownership. Moreover, the application of the clause does not cease with the coal roads against which it was specifically directed. Inasmuch as the term "railroad" includes switches, spurs, terminal facilities, and yards, it will compel all owners of terminal elevators and of businesses connected by tap-lines to give up one business or the other. A railroad can now be engaged in no other business than that of transportation. Of course, most of the terminal facilities are intrastate in their ownership, but the jurisdiction of the Commission will extend to all their interstate shipments. An exception has been made in favor of lumber, doubtless because of the apparent necessity of the private railroad to the logging camp and because of its temporary character; but it is difficult to discover the justice of the exception, particularly in view of the fact that the Commission is empowered to require the building of spurs by railroads where business warrants them. A determined attempt was made to bring all common carriers under the operation of the clause instead of railroads alone, in order that pipe-lines, which had been declared common carriers by the act, might be included; but the argument that it would have resulted in the

destruction of the oil industry, and would probably in any case have been found unconstitutional, led to its final elimination. That the financial problem involved in this clause was appreciated is shown by the fact that nearly two years are to elapse before it becomes effective. It is likely to prove one of the most troublesome provisions in the act on both the financial and legal side. In it are involved many close questions of interpretation.

The Act of 1887 contained no express prohibition of the granting of passes. It was held by the Commission and sustained by the courts that the granting of free transportation other than to those specially excepted was contrary to sections 2 and 3, which forbade unjust discrimination and undue preference.[1] The new law leaves no doubt in the minds of any reader as to its intention in this matter. Common carriers are forbidden to give directly or indirectly, and persons are forbidden to use, any interstate free ticket or pass. Two general classes of exceptions are made to the application of the statute. The first class includes railroad employees and their families, officials, railroad surgeons and attorneys, and employees of agencies associated with the railroad business, such as those of the sleeping-car, express, telegraph, post-office, customs, and immigration service, caretakers of live stock, and newsboys and baggagemen on trains. The second class comprises the poor and unfortunate classes and those engaged in religious and charitable work.

There is some doubt whether the law should, even by implication, impose upon railroads the burden of carrying unfortunate persons free, when the duty is clearly one belonging to the State. As for ministers of religion and charitable workers, there is no justification whatever for any legislation in their favor. It is high time that the

[1] 7 I. C. C. R. 92; 66 Fed. Rep. 146.

national government and the separate States ceased to sanction this gross form of discrimination. The anti-pass clause is to be interpreted in connection with section 22 of the old act, still in force, which provides for the issuance of mileage and excursion tickets and for granting reduced rates to certain excepted classes.

The section would seem to be sufficiently generous in granting all the exceptions that can properly be demanded. The Commission has ruled, since the new law went into effect, that the prohibition against the departure from the published rate precludes the acceptance of anything but money for the transportation of either passengers or property. This should do away with the abuse of newspaper mileage and all other devices by which the roads are accustomed to favor those whose influence is of importance. If the pass clause is vigorously enforced, it should, in co-operation with the laws enacted in the several States, do away eventually with the pass scandal.

Finally, it is to be noted that the Elkins Act of 1903 has been strengthened by making both giver and receiver of a rebate liable to imprisonment as well as fine, and by compelling the recipient of the favor, in addition to these penalties, to forfeit three times the value of the consideration received. It is perfectly obvious that a vigorous enforcement of the imprisonment penalty would dispose of the rebate question once for all. Whether we have reached the point in our criminal procedure when we have the courage to put our financiers and our railroad presidents behind the bars for an offence of this character is another question. What is more likely to happen is the humiliation of some humble traffic official who becomes the scapegoat for the real culprits. Yet experience has shown that a fine alone was not sufficient to deter a corporation from violation of the law: it became a mere matter of business speculation. It is to be hoped that

our executive officials will have the courage to prosecute vigorously under this amended section, and that our judiciary will impose the full penalty provided.

Rates. Since the decision in the Maximum Rate case in 1897,[1] which definitely declared that the Commission had no power to prescribe a rate for the future, and that its power in passing upon the reasonableness or unreasonableness of a rate was entirely confined to determining whether that rate had been reasonable or unreasonable in the past, the question of conferring specifically upon the Commission the rate-making power has been the topic about which all discussion concerning the amendment of the Interstate Commerce law has centred. It was the main suggestion of President Roosevelt in his presentation of the subject in the messages of 1904 and 1905. It was the topic of greatest interest and most general discussion in the hearings before the Senate Committee. It formed the main theme of the speeches in both Houses of Congress. Such a power is designed to reach the published rates, not secret rates, which are covered by the sections forbidding rebates and discriminations. Excessive rates, those unreasonable in and of themselves, if they exist at all, are of comparatively small importance, but relatively unreasonable rates have been the subject of long-continued and bitter complaint. A shipper is not so much interested in the rate he pays as he is in seeing to it that his competitor pays the same rate. The Supreme Court's decision that the Commission could not prescribe a rate for the future left to the shipper merely the privilege of suing for excessive charges when a rate had been held by the Commission to be unreasonable. This the individual shipper usually failed to do, the amount in controversy in any individual case being usually too small to warrant it. Moreover, the one who paid the freight rate was

[1] Cincinnati Freight Bureau Case, 167 U. S. 479.

frequently a middleman, and the individual who actually suffered from the excessive rate, the consumer or the producer, had no standing in court and could not recover. The only adequate relief from such a situation was to clothe the Commission with power to prevent such occurrences in the future.

When it became evident that public opinion would demand the endowment of the Commission with the rate-making power, the proposition began to be vigorously attacked on the ground of unconstitutionality. Witnesses before the Senate Committee argued against the constitutionality of such a plan, and members of the Senate devoted portions of their speeches and hours of debate to proving the contention. Space will not permit an analysis of these arguments.[1] It is sufficient to say here that they denied the right of Congress to delegate its legislative power to a Commission. Those who maintained the constitutionality of such a delegation of power relied, in the first place, upon the utterance of the Court in the Maximum Rate case as follows:—

> Congress might itself prescribe the rates, or it might commit to some subordinate tribunal this duty; or it might leave with the companies the right to fix rates, subject to regulations and restrictions, as well as to that rule which is as old as the existence of common carriers, to wit, that rates must be reasonable.

In the second place the supporters of this view rely upon the principle enunciated in *Field* v. *Clark*,[2] in which the court sustained the right of Congress to clothe the President with power to suspend under certain conditions the reciprocity provisions of the Tariff Act of 1897. The conclusions of this case may best be presented in the words of Attorney-General Moody, who, at the request of the Senate Committee, submitted an opinion covering this question:[3]—

[1] For an excellent summary see *Digest*, pp. 84–87.

[2] 143 U. S. 692.

[3] *Senate Committee Report*, vol. ii. p. 1674.

Although legislative power, properly speaking, cannot be delegated, the law-making body, having enacted into law the standard of charges which shall control, may intrust to an administrative body, not exercising in the true sense judicial power, the duty to fix rates in conformity with that standard.

It seems probable that Congress, having established a standard and declared that rates shall be reasonable and just, has violated no constitutional principle in giving the Commission power to prescribe maximum rates, and that the rights of carriers will be fully guarded through the assertion by the courts of their jurisdiction over the question of reasonableness.

Another clause of the Constitution which has been brought into the discussion for the purpose not of demonstrating the impossibility, but rather the undesirability, of taking the rate-making power out of the hands of the railroads, is the so-called preference clause.[1] The argument is that preferences of various kinds are absolutely essential to transportation, and that this clause would make such preferences impossible, and would compel either Congress, or a body to which it delegated authority, to adopt the rigid mileage basis in the establishment of railroad rates with resulting disaster to industry. The Interstate Commerce Commission, supported by an opinion of the Attorney-General, has held that the clause has no application to the exercise of the rate-making authority. But, even if it had, the wording of the clause would demand careful definition. What, for example, is meant by a "port"? Does it include all inland ports or merely seaports? What constitutes a preference? The Commission holds that the establishment of differential rates to various ports, far from creating preferences, actually removes them, and that a distance tariff would, in fact,

[1] "No preference shall be given by any regulation of commerce or revenue to the ports of one State over those of another." Constitution United States, Article 1, Section 9, § 6.

create the very preference which is forbidden by the Constitution.

The rate section of the amended act provides that the Commission shall have power, upon complaint, whenever the rates or charges or any regulations or practices are unjust or unreasonable, to prescribe, after full hearing, the reasonable regulation or the maximum rate, and to make an order that the carrier shall cease from violation of the statute. All orders except those for the payment of money are to go into effect in not less than thirty days, and to remain in effect for not more than two years, unless suspended, modified, or set aside by the Commission or suspended or set aside by a court of competent jurisdiction.

One of the most vigorously and ably contested points in the Senate in connection with the granting of the rate-making power concerned the question whether the rates prescribed by the Commission should remain in effect pending their review as to reasonableness by the courts. The railroads had insisted that, if the new rates remained in effect during the court hearing, and were then held to be unreasonably low, there would be no possible way by which they could recover the losses suffered at the hands of their multitude of shippers. They suggested, as an alternative proposition, that the law should provide for the suspension of the Commission's order pending review by the courts, but that the railroads should be required to give a bond to their shippers, guaranteeing the payment of the difference between the old and the new rate, if the case should be decided adversely to the railroads. This apparently liberal offer overlooked the fact, already mentioned, that the shipper who would be entitled to the fulfilment of the bond is frequently merely a middleman, and that the actual sufferer from an unjust rate would not be reached.

The question, as it was debated in the Senate, turned

upon the power of Congress to take away from the lower Federal courts the right to entertain petitions for temporary injunction. It is clear that, if the right of injunction could be constitutionally denied to Federal courts in relation to orders of the Commission, the effectiveness of the Commission's rulings relative to rates would be immensely increased, and the remedy against abuses enjoyed by shippers would be rendered very much more speedy. One view, ably presented by Senator Bailey,[1] maintained that the power to create all courts other than the Supreme Court rests alone in Congress, and that such courts, being statutory, are necessarily limited in their scope and power by the authority that creates them. The opposition, represented by Senators Spooner[2] and Knox,[3] insisted upon a distinction between judicial power and jurisdiction. They admitted that Congress has the power to define the jurisdiction of all courts below the Supreme Court, but, having created them and defined their jurisdiction, Congress cannot limit those fundamental judicial powers which have for centuries been considered as essential to a court's existence. Among these inherent powers are the equity power and the right to issue injunctions. The contest was bitter and protracted, involving misunderstandings in which the President became involved. The radicals, unable to accomplish their desire to deprive the courts altogether of the right of injunction in rate cases, stood for the proposition that the judicial right of review should be confined to cases in which the order of the Commission was either unconstitutional or beyond its statutory authority. It is unnecessary here to express an opinion upon the merits of the controversy. The conservatives practically won their contention, and the so-called com-

[1] *Congressional Record*, 59th Congress, 1st Session, Vol. 40, p. 5301, April 13, 1906.

[2] *Ibid.*, p. 4481, March 28, 1906.

[3] *Ibid.*, p. 4418, March 27, 1906.

promise which was effected conferred express jurisdiction upon the Circuit Courts in suits to enjoin, set aside, or suspend orders of the Commission. It required, however, that no injunction or interlocutory decree, suspending the order of the Commission, should be granted except after not less than five days' notice to the Commission. This question will be further discussed under the head of Procedure.

Under the old law the Commission had no power to compel the making of a joint rate, and the railroads could nullify any order of the Commission which declared any such rate unreasonable by refusing to agree upon divisions of the through rate. In fact, the refusal of roads to prorate led, in many cases, to excessive charges, and, where the refusal applied to all but a favored few of the shippers, to serious discrimination. The Commission is now given power, after hearing, to establish maximum joint rates. It is also empowered to prescribe their division among the carriers concerned, and to establish through routes and the terms and conditions under which they shall be operated whenever the carriers have refused or neglected to do so voluntarily. This provision also applies when one of the connecting carriers is a water line.

Power is given the Commission to determine upon complaint the reasonable maximum charge to be paid by a carrier for service rendered or instrumentality furnished by the owner of property transported. Commissioner Prouty is of the opinion that this clause will not prove effective, and that it probably will be found necessary to forbid the merging of shipper and owner in one person in the same manner as railroads are now forbidden to carry their own commodities.

Publication of rate schedules in form to be easily understood is of the utmost importance to an effective enforcement of any rate law, and its importance has been increased

by the enactment of the Elkins Act which makes any departure from a published rate a misdemeanor. The old law, in the case of both local and joint rates, required a ten days' notice of any advance and a three days' notice of any reduction. The Commission, under the authority granted it, prescribed the form of such schedules and the method in which they should be made public. By various devices, the most objectionable of which was the so-called "midnight tariff," which gave favored shippers advance information of a contemplated reduction of rate, and immediately restored the old rate when these shippers had profited by it, the provisions of the section were rendered of little value to the public. The section of the new law relating to the subject has attempted to profit by the Commission's experience. Schedules of both local and joint rates must be filed with the Commission and publicly posted, and, where no joint rates have been established, each carrier must file the rates applied to through transportation. The schedules must also state separately all terminal, storage, and icing charges, and all privileges and regulations which in any way affect the service rendered. Thirty days' notice is required of any change in these rates unless the Commission for good cause modifies the requirement. Since the new law became effective on August 28, many petitions for the suspension of this provision have been filed with the Commission. One such petition has been granted, that permitting a modification of the rate on ice into Boston to avert a threatened famine. An extended hearing has been given the roads exporting cotton, which maintain that the fluctuation of ocean rates makes it impossible to give the required thirty days' notice of that portion of the rate received by the railroads. It is clear that the Commission has here a problem of the greatest delicacy, involving the exercise of a sound judgment and a wise discretion. Too great liber-

ality in the interpretation of the statute at the start will bring down upon it such a flood of petitions, with equally good claims to consideration that the law will soon become nugatory. The clause can be made a powerful stimulus towards securing impartial and stable rates if administered with firmness, and many of the dire consequences looked for by the railroads will fail altogether of realization when once the roads have brought their rate-making methods into conformity with the statute.

It is to be noted that the amended law, like the old law, gives the Commission no direct power over classification. While uniformity of classification may not at present be feasible, the power to prescribe such a classification should reside with the Commission, and its influence should be in the direction of greater uniformity. Moreover, such a provision would give the Commission a more direct authority to put a stop to the practice of raising rates by changes in classification.

The lack of power in the amended law to prescribe a differential will, it is feared, prove to be a serious weakness. While the Commission has power, upon complaint, to lower a rate on one road, it cannot prevent the virtual nullification of its order by a lowered rate on a competing line. The question of discriminations between long and short haul shipments will be considered later.

Accounting. The importance of the section of the act relating to annual reports has been little appreciated. Yet it is a safe prediction that, if its provisions are made effective, it will have more influence than any other section of the statute upon the elimination of existing transportation evils. The old law required from the railroads annual reports which should contain, in addition to a complete financial statement, specific answers to questions upon which the Commission might need information. It further authorized the Commission, in its discretion, to

prescribe a uniform system of accounting for railroads. Yet, in spite of the efficient labors of the able statistician to the Commission, reports have been faulty and incomplete. Certain railroads have habitually refused to answer some of the questions, and others have answered them in a manner wholly unsatisfactory. With such undesirable results the Commission has been obliged to rest content, for there has been no way to compel compliance with its requests. No penalty was provided in the law for failure to make the full report asked for. The Supreme Court has held that no suit could be maintained to compel the furnishing of the information refused in the annual reports.[1] The Commission has requested the verification of reports under oath, but the law did not require it, and the request has been disregarded by many railroads.

The new section grants to the Commission all that the most ardent advocate of publicity of accounting could desire. It requires that the annual reports shall be made out under oath, and imposes penalties for failure to file them with the Commission within the prescribed time. It empowers the Commission to call for monthly or special reports. It gives the Commission authority, in its discretion, to prescribe the book-keeping methods of the carriers, gives it access at all times to the books of the railroads, and authorizes it to employ special examiners for the purpose.[2] Penalties are imposed for failure to conform to the prescribed methods of book-keeping or for refusal to submit the books to the inspection of the examiners. Fine or imprisonment, or both, are imposed upon persons who wilfully falsify or mutilate records or neglect to make the proper entries, and jurisdiction is given to the United States courts to issue writs of mandamus in the enforcement of the provisions of the section.

[1] *Knapp v. L. S. & M. S. Ry Co.*, 197 U. S. 536.

[2] The old law gave the commission power to call for the books in a case under investigation, but not to send its examiners into the offices of the roads.

The purpose of the section is to make the railroads in reality public service corporations, and expose every individual transaction to the public eye. Armed with penalties and supported by the courts, upon whom jurisdiction is specifically conferred, the Commission can now, as it could not earlier, draw up a complete system of book-keeping and secure its adoption. Uniformity of book-keeping is, of course, absolutely essential to any successful government inspection, for thorough familiarity with the books cannot be obtained or satisfactory comparisons made until the books of all the carriers are drawn up in the same form. Such a system, when once secured, will be a great aid in determining the reasonableness or unreasonableness of rates, and will be a most potent power in the detection and prevention of rebates.

But the clause goes one step further in the effort to enforce absolute publicity and prevent evasions of the statute. It is made unlawful for carriers to keep any other accounts, records, or memoranda than those prescribed or approved by the Commission, attaching to any violation of this provision the penalty of fine and imprisonment. Such a safeguard is obviously necessary, if the section is to be effective. Otherwise, illegal transactions would be out of reach of government inspectors. It is sincerely to be hoped that the constitutionality of this clause, which many question, will be sustained. There is no doubt that it will be liberally interpreted by the Commission, and railroads will be permitted to keep such records peculiar to their own situation as are essential to the development and perfection of their operation. It would be a heavy price to pay for uniformity of accounting, were it to result in the abolition of the experimental statistical laboratory so efficiently conducted by many railroad managers. The purpose is not to prevent such records, but simply to make the Commission cognizant of them in advance.

Procedure. Changes have been brought about in methods of procedure for the enforcement of orders of the Commission which promise to strengthen greatly the effectiveness of the Commission as a regulating body. Orders may be issued for many purposes, including those designed to enforce definite requirements of the law and those issued after complaint and hearing to rectify the evils complained of. But all orders except those for the payment of money are enforced in the same manner. The latter have been of little importance in the experience of the Commission. In suits involving more than twenty dollars, and requiring under the seventh amendment to the Constitution a trial by jury, the new law provides, as did the old, for appeal to the Circuit Court sitting as a court of law, and the findings of fact which the Commission is required to prepare in such cases are considered *prima facie* evidence.

It has been observed that the Commission in the suits just referred to prepares a *prima facie* case for the court. This practice, which was formerly required in all investigations, is now confined to damage suits. In the case of every other form of complaint the thorough investigation which included the findings of fact upon which conclusions were based is now eliminated, and the Commission is now required to make a report which shall state merely its conclusions together with its decision or order. The former procedure necessitated the examination of large numbers of witnesses, and imposed in many cases an unnecessary amount of labor upon the Commission, besides consuming much time and delaying the settlement of cases that called for speedy relief. It will be seen that this change in the law will materially expedite the settlement of complaints by lightening the clerical labors of the Commission. It takes away one of its semi-judicial functions, and makes it more definitely an administrative agent

of the legislative authority. Whether it will impose new burdens upon the judiciary depends entirely upon the interpretation which the courts place upon the statute. Under the old law a refusal to obey the Commission's order brought the matter by petition of the person injured before the Circuit Court in equity, which had power to issue writs of injunction, to levy fines, and to issue writs of attachment. In the court hearing the findings of the Commission were accepted as *prima facie* evidence, but the court from the beginning considered it within its power to go beyond the evidence submitted by the Commission and consider the case *de novo*.[1] This acted as an incentive to the carriers to reserve the main portion of their evidence for the court and present a mere outline to the Commission. The Supreme Court has, however, frowned upon this practice,[2] and has declared that it was the intention of the act that the facts involved were to be disclosed before the Commission. It is to be hoped that the new methods of procedure will dispose of this troublesome question. Disobedience of an order of the Commission now, as before, brings the case upon petition of the party injured before the Circuit Court in equity. The application for relief merely states "the substance of the order." The court is required to "prosecute such inquiries and make such investigations, through such means as it shall deem needful, in the ascertainment of the facts at issue or which may arise upon the hearing of such petition." The section continues, "If upon such hearing as the court may determine to be necessary, it appears that the order was regularly made and duly served, and that the carrier is in disobedience of the same, the court shall enforce obedience to such order by a writ of mandamus or other proper process." Much depends upon the inter-

[1] *Kentucky & Indiana Bridge Co.* v. *L. & N. R.R. Co.*, 37 Fed. Rep. 567, January 7, 1889.

[2] Social Circle Case, 162 U. S. 184.

pretation of the words "regularly made and duly served." If it confines the jurisdiction of the court to determining whether the Commission has followed the correct procedure in making and serving its order, the law virtually declares the order of the Commission unreviewable, and calls upon the court simply to enforce the existing order. If, however, the court holds that its duty to ascertain the facts in the case gives it broader jurisdiction, the situation will remain much as it was under the old law. Appeals from action of the Circuit Court lie direct to the Supreme Court, and have priority over all except criminal cases.

A most salutary change has been brought about in the method of making penalties operative upon the carrier. Formerly penalties for violation of an order of the Commission did not begin to run until sustained by an order of the court. This threw the initiative upon the Commission, and left the carrier free to pursue its disobedient course until the judiciary had concluded its deliberations. The new section makes an order effective within such reasonable time, not less than thirty days, as the Commission shall prescribe, and continues it in operation for a period not to exceed two years. A penalty of $5,000 for each violation of the order, each day being considered a separate offence, begins to run on the day indicated in the Commission's order.

Relief from the burden of cumulative penalties, which would quickly amount to an excessive sum, is provided by giving the carrier power to bring suit at any time after the order is issued, to enjoin it or set it aside, and jurisdiction is expressly vested in the Circuit Courts to hear such suits.

The provisions of the Expedition Act of 1903[1] are made

[1] This act, approved February 11, 1903, provides that, in any suit in equity brought in the Circuit Court under the Anti-trust Act or the Interstate Commerce Act wherein the United States is complainant, the Attorney-General may certify to the court that the case is of general public importance, under which circumstances the case shall be given precedence and heard before three circuit judges, with appeal within sixty days direct to the Supreme Court.

applicable to all these suits, including application for temporary injunctions, but no injunction or interlocutory order may be granted except on hearing after not less than five days' notice to the Commission.

The Commission is given power to grant a rehearing after its order has been made, if sufficient reason appears, but such rehearing does not operate to stay the enforcement of the order without special permission of the Commission. Upon rehearing the Commission may reverse or modify its original order.

One distinct purpose animates all these changes in the section. The fact that an order of the Commission is now effective immediately upon promulgation, and that the carrier must either obey or take steps at once to prevent the accumulation of penalties; that a rehearing before the Commission is provided for; that the duty of the Circuit Court is now to determine the regularity of the order of the Commission; and that no injunction may issue suspending an order without giving the Commission an opportunity to be heard,—all show clearly that Congress has intended to create an efficient administrative board as an arm of the legislative body. It is perfectly clear that the judicial power is expected to interfere only when the order of the Commission is *ultra vires* or unconstitutional. The court will be expected to treat an order of the Commission as it would an act of Congress, with a presumption in favor of its validity until the opposite has been clearly shown, and carriers will be deterred from contesting an order of the Commission unless they have a good case.

Whether the Supreme Court will decide that the intent of the statute is unequivocally expressed in its terms remains to be seen. If upheld, a permanent step has been taken in the solution of the problem of railroad control. Not only will the orders themselves be more

effective, but their value will be enormously increased by the expedition with which they will go into effect. The curse of the old law, the weakness which obtained for it its greatest disrepute, was its utter inability to bring about speedy or decisive results.

Minor Changes. Among the minor changes may be noticed the so-called Carmack amendment, which provides that carriers receiving interstate shipments must issue a through receipt or bill of lading therefor, and become liable for the shipment, no matter on what road the loss or damage occurs; but the initial carrier is entitled to recover from the carrier on whose line the loss takes place. Conferences have been proceeding for a year or more between shippers and carriers in an effort to arrive at some sort of uniform and satisfactory adjustment of this troublesome question. Whether or not bills of lading have been issued, whether the carriers have limited their common law liability, whether they have paid claims promptly or at all, has often depended upon the keenness of competition and the desirability of the shipper's patronage. Under the guise of claims, rebates to large shippers have been frequent, and small shippers have waited long and frequently in vain for the adjustment of their losses. So far as joint shipments have been concerned, the fact is that in a large majority of cases where losses have occurred on the line of a connecting carrier no recovery has been possible at all. The clause under discussion adopts the prevailing principle of English law since 1841, and, if it proves to be constitutional, as to which some doubt exists, it should be productive of beneficial results to shippers. It is insisted that it will work a distinct hardship and injustice to the railroads, but it is perfectly apparent to those who are familiar with the claim departments of our railroad systems that the hardship imposed on railroads is a mere trifle when compared

with that which has been endured so long by shippers. In most railroad systems of accounting the machinery is now in existence by which such damage claims can be adjusted between the roads. It will, of course, be necessary for the Commission, when compelled to establish through routes upon failure of the railroads to do so voluntarily, to take into consideration the effect of this liability clause, and to safeguard initial carriers against possible failure of connecting lines to settle damage claims. The clause forbids the carrier to limit its liability by contract, but does not make clear that it is full common law liability which is intended. Interpretation at this point will be required.

The Commission is enlarged from five to seven members, only four of whom shall be of the same political party. Their term of office is extended from six to seven years, and their salary is increased from $7,500 to $10,000 per year. These changes mean an increase in the dignity and influence of the Commission.

Having now considered the more important amendments to the act, we are led to inquire what gaps in the system of railroad regulation are still left to be filled. The omission which will be most keenly felt in the enforcement of the new statute concerns the relation of long and short haul rates. Section 4 of the old act,[1] robbed of all its vitality by Supreme Court decision,[2] stands unamended. To quote from the testimony of the chairman of the Commission before the Senate Committee:[3]—

> No one, I think, can read the fourth section . . . and be in doubt

[1] Section 4 made it unlawful for a carrier to charge any greater compensation in the aggregate for transportation under substantially similar circumstances and conditions for a shorter than for a longer distance over the same line in the same direction, the shorter being included in the longer distance; but the Commission might, after investigation, suspend the operation of the clause.

[2] Alabama Midland Case, 168 U. S. 144, 173.

[3] Vol. 4, p. 3293.

that Congress intended to provide some actual and potential restraint upon that particular form of discrimination. And, I may say, it remains to-day, much as it was then, not the greatest evil, but the most irritating and obnoxious form of discrimination that has been encountered.

In view of this situation, Congress might reasonably have been expected to reconstruct the clause, not in such radical manner as to prohibit lower rates for the long haul, when circumstances manifestly justified such a practice, but to prevent the present practice in which carriers have been authorized by the court to charge less for the long haul than for the short haul whenever competition of any kind is present, and to act without any previous authorization by the Commission. It is evident that a large breeding place of discrimination and undue preference has been left undisturbed, and that the arbitrary basing point system of the southern roads may continue its existence unmolested.[1]

In the consideration of remedies for this situation other than a reconstruction of the section itself, we are led to observe two other regrettable omissions in the statute. The one is the failure to bring under the jurisdiction of the Commission carriers engaged in inland transportation by water.[2] Although the evils incident to water transportation have probably been much less than in the case of railroads, and although the force of competition works much more effectively in water carriage, nevertheless the exemption of water transportation from the operation of the law has been a serious hindrance to the regulation of land transportation which comes into competition with it, and, in many instances, water lines have been made to assist railroads in evasion of the act. Publication of

[1] Compare Professor W. Z. Ripley's article on "Economic Wastes in Transportation," in the *Political Science Quarterly* for September, 1906.

[2] This refers to all-water lines, water carriage that forms with rail transportation a through route being now under the jurisdiction of the Commission.

water rates and the securing of reasonable stability through the jurisdiction of the Commission would assist in solving the problem of section 4. But of more importance would be the repeal of section 5 which prohibits pooling. Such a result was hardly to be hoped for in the present temper of public opinion, and in view of the fact that rates, for one cause or another, have been advanced since the era of railroad consolidation. But it is the wide-spread conviction of students of the problem that the pooling of traffic by competitive lines, under close supervision of the Commission, would materially improve the railroad situation by securing uniform and stable rates, and by eliminating a great part of the place discriminations. The theory clung to so tenaciously by the people at large, and given weighty sanction by the decisions of our highest court, that competition can be relied upon to give shippers reasonable rates, is utterly impracticable when applied to the railroad industry. The conversion of the informal and secret agreements between carriers which now prevail, and which in the nature of things must prevail, into open legal contracts sanctioned and regulated by the Commission, must be effected sooner or later if this railroad problem is to be solved by other means than by government ownership.

In view of the extended treatment given to the amendments individually, comment on the act, as a whole, seems superfluous. It is to be remembered that this is not a new statute, but an amendment of an old one. The fundamental principles set in the act of 1887 have not been disturbed. The experience of nineteen years has but demonstrated the soundness of its basic principles, and the amendments have been incorporated with a view to making these standards apply more definitely and practically to the every-day problems of railroad transportation. Public interest in the progress of the measure has been remarkable, and the result is a striking victory for public

opinion. How much has actually been accomplished cannot be foretold. This will depend upon the ability of the act to run the gauntlet of the courts, and upon the vigor with which its provisions are enforced by the Commission. At present one can afford to be optimistic. The Commission, without awaiting the presentation of cases to it, is diligently engaged in the interpretation of the statute and in its application to the specific questions that arise daily. The roads have accepted cordially the will of Congress, and seem disposed to obey the law to the letter, and to accord the Commission every facility for investigation. Whether this attitude will continue when traffic falls off and the railroads begin again their struggles for business remains to be seen. They are at least entitled to a presumption in their favor, and cordial co-operation will do much to make railroad regulation a blessing to shipper and carrier alike.

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THE TAXATION OF PERSONAL PROPERTY IN PENNSYLVANIA.

THE sweeping statement was recently made by the State Superintendent of Public Instruction for Pennsylvania, Hon. N. C. Schaeffer, that "very few persons, even in Pennsylvania, know how the State gets its revenue."[1] If this remark is justified with reference to a knowledge of the general outlines of Pennsylvania's revenue system, it applies with even greater force to the knowledge of particular features of that system and of their practical working. The purpose of this paper is to present the facts bearing on the operation of what is perhaps the least widely known phase of the Pennsylvania system,—the taxation of personal property.

In Pennsylvania there are many points of contact between State and local tax administration and expenditure; but as regards the immediate sources of State and local revenue, respectively, there is complete separation. Municipality, county, township, and school district derive their revenue principally from the taxation of real estate located within their respective limits, and in a minor way from fees of various descriptions and from the taxation of a few species of personalty. The State draws no revenue from the taxation of real estate. Its income is drawn from the following briefly enumerated sources: the tax on the capital stock of corporations (excepting banks, savings institutions, and foreign insurance companies, which are otherwise taxed, and manufacturing companies, which are exempted from taxation on capital directly invested in their business); the taxes on corporate, munici-

[1] *Report of Committee of National Educational Association as Related to Public Education*, July, 1905, p. 70.

pal, and individual loans, and on horses, mules, and cattle; the taxes on the gross receipts of transportation, transmission, and electric light companies, and on the premiums of insurance companies; the tax on bank stock; the collateral inheritance tax; and a variety of license and other minor fees. From the standpoint of yield and of simplicity and effectiveness of administration, the most important single item in this list is the tax on the capital stock of corporations. In a very significant sense this is a tax on the investments of individuals to which the principle of stoppage at the source has been applied, and as such it might very properly be regarded as a tax on personal property. But in the administration of the tax, and in the clearly expressed view of the courts,[1] a sharp distinction has been drawn between the *capital stock* of a corporation and its *shares of stock*. The accepted legal view is that capital stock represents the entire property, assets, earning capacity, and franchises of a company, whereas shares of stock merely show what interest each individual shareholder has in such property and franchises. For these reasons, as well as with a view to reasonably limiting the discussion, we shall subsequently give this tax only incidental consideration.

The tax on the loans of counties, municipalities, and private corporations, like the tax on capital stock, is a subject of special provision in the tax laws, independently of the provision that is made for the taxation of personalty; but, unlike the tax on capital stock, this tax on loans, both in the accepted administrative usage and in the opinion of the Supreme Court of the State, is treated as identical in character with the State tax on personalty.[2] The genesis of the special provision for the taxation of loans confirms this view of identity. County and munic-

[1] *Commonwealth* v. *Standard Oil Company*, 101 Pa. 148, and other cases.

[2] *Commonwealth* v. *Lehigh Valley R.R. Co.*, 129 Pa. 445.

ipal loans were first separated from the other classes of property subject to the State tax on personal property in 1844; and the loans of private corporations were similarly separated in 1864. Inasmuch as such loans are supposed to be matters of record, the change was made with a view to requiring the treasurers of corporations, counties, and municipalities concerned, to collect the personal property taxes by deducting them from interest payments rather than to depend upon the making of returns to local assessors by the holders of obligations.

For these reasons we shall briefly include the tax on loans in our treatment of the personal property tax.

I.

The Law.

The Tax on Corporate Loans.

The law requires that annual reports be made to the Auditor-General of the State by the treasurers of private corporations[1] and of counties and municipalities,[2] showing the amounts of all loans, in the form of mortgages, bonds, or otherwise, held by any persons or corporations resident or liable to taxation in the State. All obligations so reported are subject to a tax of four mills on the dollar of the nominal value thereof. The treasurers of the public or private corporations issuing obligations are constituted agents for the collection of the tax, which under the law is deducted from the interest due to holders, who in turn are thereby exempted from direct taxation on such obligations. School district and township bonds are not taxed under these provisions, but are locally assessed and taxed in the hands of holders under the provisions of the State personalty tax, described below. In remitting the pro-

[1] Acts of June 30, 1895, P. L., p. 193, and June 8, 1891, P. L., p. 229.

[2] Acts of June 1, 1889, P. L., p. 420, and June 8, 1891, P. L., pp. 229–243.

ceeds of the tax on resident loans to the State Treasurer, the treasurers of corporations are expected to deduct a commission for collection, as follows: 5 per cent. on the first $1,000 collected, 1 per cent. on the second $1,000, and ½ of 1 per cent. on all in excess of $2,000. It should be noted that the law, so far as phraseology goes, applies to foreign corporations doing business in the State quite as fully as to corporations of domestic origin, and that the validity of this provision was early upheld by the courts of the State.[1] The Supreme Court of the United States, however, in the case of *New York, Lake Erie & Western Railroad Company* v. *Commonwealth* (153 U. S. 628), held that the State could not "constitutionally impose upon the New York, Lake Erie & Western Railroad Company the duty, when paying in the city of New York the interest due upon scrip, bonds, or certificates of indebtedness of that company held by residents of that State, of deducting from the interest so paid the amount assessed upon bonds and moneyed capital in the hands of such residents." Since almost all of the foreign corporations issuing bonds, scrip, etc., are railroad companies or corporations of a similar nature, which pay the interest on their obligations by checks drawn on New York or on other places outside of the State, the effect of this decision has been that of relegating the taxation of such obligations to the administrative provisions of the State tax on personal property. Obligations of domestic corporations held by residents of other States are not taxable in Pennsylvania.[2]

[1] See *Commonwealth* v. *Del. & Hudson Canal Co.*, 150 Pa. 245, and other cases.

[2] For fuller discussion see p. 62 *et seq.*

The State Tax on Personal Property.

Under the law on this subject[1] the board of revision of taxes in cities coextensive with counties, and the commissioners of others counties, are required annually to furnish the assessors of the various local subdivisions (townships, wards, etc.) with blanks which are supplied for the purpose by the Auditor-General of the State. It thereupon becomes the duty of every such assessor to furnish a copy of this blank to every taxable person, corporation, association, or partnership in his district. Upon these blanks all taxable persons are required to make sworn returns of all personalty taxable under the law. The making of a false return is attended with a maximum penalty of $500 fine, imprisonment at labor for seven years, and perpetual disqualification from being a witness in any controversy. Upon the refusal or failure of any taxable person to make proper returns within ten days after notification to do so, it becomes the duty of the assessor to make a return for such taxable person. In this work such assessor is required to examine the records and lists of judgments and mortgages returned under the law by various county officers of record to the county commissioners' office,[2] as well as to make use of all other possible sources of information. The return so made is subject to revision at the hands of the county commissioners, who are empowered to call for the books and records of taxable persons and to compel testimony under oath. To the return so revised 50 per cent. is added to reach the basis for taxation. It is further provided that, if any taxable person shall present

[1] Act of June 1, 1889, P. L., p. 420, amended by Act of June 8, 1891, P. L., p. 229.

[2] Hereafter, when the county commissioners are referred to, it is to be assumed that reference is likewise made to the board of revision of taxes, which has charge of tax matters in "cities coextensive with counties."

reasons satisfactory to the county commissioners, excusing a failure to make a return to the assessor, and shall then make a return, this may be substituted for the revised estimate of the county commissioners.

As indicated above, it is the duty of every recorder of deeds and mortgages in each county to keep a daily record of all mortgages or articles of agreement entered for recording in his office, including dates, names of parties, sums of money secured, etc., and the duty of every prothonotary to keep a similar record of every single bill, bond, judgment, or other instrument securing a debt. This daily record is to be filed on the first Monday of every month with the county commissioners. It thereupon becomes the duty of every county commissioner in the State to prepare a certified statement of the existence within his county of obligations owned by persons resident in other counties of the State, and to transmit such statement to the commissioners of counties in which the holders of such obligations reside. It is further the duty of county commissioners to prepare records showing the obligations, and names of parties thereto, in each township or ward of the county, and to deliver the same in each instance to the proper assessors. Such assessors in turn are required to make use of these records in the work of receiving and preparing returns for the county commissioners. The county commissioners are required to raise the property valuations of any persons whose returns of taxable property are less than that revealed by the records on file. All valuations are subject to appeal for revision to the county commissioners. Wilful failure on the part of any county official to carry out the duties imposed by law is ground for fine and imprisonment.

The following classes of property are subject to an annual tax at the rate of four mills on the dollar:—

All mortgages; all moneys owing by solvent debtors,

whether by promissory note or penal or single bill, bond, or judgment; all articles of agreement and accounts bearing interest; all public loans whatsoever, except those issued by the State of Pennsylvania or by the United States; all loans issued by or shares of stock in any bank,[1] corporation, association, company, or limited partnership created under the laws of the State of Pennsylvania or of any other State or government, including car trust securities and loans secured by bonds or any other evidence of indebtedness, except shares of stock in any corporation or limited partnership liable to the tax on capital stock or expressly relieved from the payment thereof; all moneys loaned or invested in other States, Territories, or foreign countries; all other moneyed capital[2] in the hands of individual citizens of the State. Exception is made of bank notes, or notes negotiated by any bank or banking institution, savings institution, or trust company, and the act does not apply to building and loan associations.

All vehicles used for transporting passengers for hire, except steam and street railway cars, and all annuities yielding annually over $200, are also taxable at the four mill rate.

It may be helpful in this connection to bring out by way of contrast with classes of property subject to the personal property tax such personal property as is exempted from taxation for special reasons or such as is exempted because substantially taxed in some indirect way. Such is the following:—

[1] By the term "bank" is meant an incorporated institution. See *Commonwealth* v. *County of McKean*, 200 Pa. 383.

[2] In the operation of the law, the phrase "all other moneyed capital" does not bring about the taxation of any property. It was inserted at the suggestion of the late Mr. Shapley, of the Philadelphia bar, "in order to give a seeming compliance with the acts of Congress . . . which provide that shares in national banks shall not be taxed at a greater rate than 'other moneyed capital in the hands of individual citizens of such State.'" Eastman, *Taxation for State Purposes in Pennsylvania*, p. 154.

Accounts not bearing interest; bank notes; bank shares;[1] the dower of widows; notes discounted by banking institutions;[2] shares of stock in corporations paying a tax on their capital stock[3] or exempt from the same,—*i.e.*, manufacturing companies[4] and building and loan associations;[5] all personal property held in their own right by national banks,[2] by banks collecting and paying the tax on their shares under the Act of 1897,[1] by building and loan associations in the case of mortgages given by members of the same,[5] by residents of other States (except when personal property is held for them by resident trustees),[6] by institutions of public charity or in trust for the same;[7] all obligations of public or private corporations, the taxes on which are paid by corporation officials out of the interest on the same;[8] and all other property not specifically mentioned in the Act of 1891.

[1] Shares of stock of national banks cannot be taxed in the hands of holders. *Boyer* v. *Boyer*, 113 U. S. 689. State banks and savings institutions pay a direct tax of four mills on the actual value of their shares of stock, or of ten mills on the par value, as they may elect. (Act of July 18, 1897, P. L., p. 292.) There is nothing in this act specifically exempting from taxation shares in the hands of holders. Exemption, however, is the practice.

[2] On the ground that banks are otherwise taxed on their capital.

[3] Shares of stock in a domestic corporation are exempted on the ground that the corporate capital is already taxed. This rule extends even to cases where, altho only a small part of the capital of a domestic corporation is invested in Pennsylvania, the shares are all held by residents of the State, on the ground that the tax on capital stock is a tax on corporate property, and not on individual shares. In the case of foreign corporations, the opposite rule applies. (See *McKean* v. *County of Northampton*, 13 Wright, 519.)

[4] Manufacturing corporations are exempted from taxation on their capital stock as well, in so far as the same is directly in the business of manufacturing in the State.

[5] Building and loan associations are directly taxed on all fully paid, prepaid, partially, or fully matured stock.

[6] Bonds and mortgages held in trust for a non-resident by a resident trustee are taxable in Pennsylvania. *Guthrie* v. *P. C. C. & St. L. R.R. Co.*, 158 Pa. 433.

[7] *General Assembly* v. *Gratz*, 139 Pa. 497.

[8] As already indicated, corporate obligations are not taxable in the hands of holders in cases where the tax is paid directly by the treasurers of corporations. Of course, where no interest is paid, no tax can be collected in this manner, whereas in cases of similar obligations issued by individuals the tax is collectible whether obligations bear interest or not. (*Perry County* v. *Troutman*, 144 Pa. 361.) An attempt has been made to equalize these matters by inserting upon the return

The personal property taxes thus assessed are collected by the county treasurers and paid into the State treasury, subject to a commission of 1 per cent. retained by the county financial officers for the work of collection. The State annually returns to each county, for county uses, three-fourths of the net amount paid into the State treasury. And, in consideration of this return, the counties waive all claim on the Commonwealth for abatements, tax collectors' commissions, extraordinary expenses, uncollectible taxes, or for keeping records of judgments and mortgages.[1]

The Auditor-General, the State Treasurer, and the Secretary of the Commonwealth form the State Board of Revenue Commissioners, whose duty it is to meet at least three times a year to deal with the work of valuation, review, and equalization of county returns. Adjustments

blanks of taxables a provision that holders of corporate obligations shall return the same for taxation if no interest is paid by the corporation during the tax year. But the return of personal property is made near the beginning of the year, whereas the tax on corporate loans is not payable until the end of the year, so that difficulty arises here. And, further, the Act of 1889 makes no exception to the prohibition of returns of corporate obligations by taxables, so that there is doubt as to the validity of the device. At any rate, it is of no great significance. (See Eastman, *Taxation for State Purposes in Pennsylvania*, p. 155.)

[1] Mr. Eastman, in his *Taxation for State Purposes in Pennsylvania*, p. 162, explains the origin of this practice as follows: "When the entire tax was retained by the State, it was the practice to pay all the expenses of collection of every kind to the counties collecting it, to remit uncollectible taxes, and to pay the expense of keeping the daily record of deeds and judgments, mortgages, etc., required to be furnished by the recorder and prothonotary of each county to the commissioners thereof for use in making assessments. These charges aggregated a considerable sum, and the allowing of the proper credits and the arriving at the proper amounts to be paid the counties were matters of great labor and considerable vexation of spirit to the Board of Revenue Commissioners who had charge thereof. It was, therefore, suggested by Auditor-General Norris that, instead of going through all such drudgery every year, the Board should recommend that, in lieu of all such credits and payments to counties, a fixed proportion of the tax should be returned to them annually, the counties to pay therefrom all expenses of every kind connected with the tax. The suggestion was adopted by the legislature, and the Act of June 1, 1889, provided that one-third of the said tax should be so returned. In 1891, when there appeared to be great danger of the passage of the 'Granger' Revenue Bill, then pending, it was agreed, as a sop to Cerberus, to increase the proportion to be returned to three-fourths, which was accordingly done. The one-third granted by the Act of 1889 was given in commutation of payments theretofore made, but the difference between one-third and three-fourths, given by the Act of 1891, was a donation. It will probably be impossible for the Common-

made by this board are subject to appeal by any county or city for rehearing before the board, as well as to further appeal to the Court of Common Pleas of Dauphin County, which is constituted a special court to deal with matters of taxation.

Local Taxation.

Local revenues are derived from taxes on real estate, on horses, mules, and cattle over four years of age, on occupations (virtually a poll tax), and from various special exactions in the shape of mercantile taxes, fees, etc. The only taxes on personal property are those on "horses, mares, geldings, mules, and cattle over four years of age." The revenues from this source constitute but a small part of total local revenues.

In the taxation of the real estate of manufacturing companies the legal theory is that machinery and equipment so attached as to become fixtures are taxable as real estate.[1] But in the practice of local officials the bulk of the equipment of manufacturing concerns is not so taxed.[2] Mercantile establishments are likewise exempt

wealth ever to discontinue this donation, and reassume its own, no matter how badly it may need revenue."

It should be added, to guard against possible false implication, that the reports of State financial officers, as well as the messages of governors of the State, not infrequently, from 1885 on, advocated such a move as this on the ground of affording necessary relief to the finances of the counties. For instance, the governor of the State in his message of 1885 suggested that the whole of the revenue from the personal property tax "be paid back to the respective counties whence it comes, to relieve real estate in those counties"; and the Auditor-General in his report for 1886 recommended that the State give to the counties from one-half to three-fifths of the proceeds of the personal property tax, for three bold reasons,—as an act of justice for exempting moneyed capital from all local taxation, to compensate for work done by county officials, and as an inducement to citizens to reveal their property for taxation.

[1] *Patterson* v. *Delaware County*, 70 Pa. 381.

[2] "If it is shown that the capital of manufacturing companies is engaged exclusively in manufacturing, it [machinery and equipment] is usually regarded as exempt." (From letter of Auditor-General, commenting on this practice.)

It is somewhat difficult to draw the line between fixed and movable machinery; but an illustration may give some indication of administrative practice. Boilers built in masonry would be considered part and parcel of the building in which they are placed, and would, therefore, be locally taxable as real estate; spinning and weaving machinery, wood and metal working machinery, would be considered movable, and would therefore be exempt.

from taxation on their equipment and stocks in trade. The mercantile taxes paid by such concerns are in lieu of other local taxes. All public and quasi-public corporations are exempt from all local taxation upon such property as is essential to the exercise of their chartered privileges, but are taxable locally on such real estate and other taxable property as is not necessary to the exercise of their respective franchises.[1]

II.

Practical Workings.

The State Treasurer in his report for 1899 said: "After another year's experience and study of the revenue laws of the State, I am more than ever satisfied that, while some modifications may be advantageously made from time to time, the general scheme of State taxation is a good one, and would advise its continuance. I do not believe there is anything superior to our system in existence in any State, and, while it might be going too far to say that nothing better can be devised, it is certainly true that no one has thus far proposed anything near its equal."

The Secretary of Internal Affairs in his report for 1904 said: "It might be very soothing to those who are charged with the duty of executing the laws to commend to the favorable consideration of the public the returns which find their way, under direction of the laws of the Commonwealth, to this office for publication, but, if done, it would be at the sacrifice of truth.[2] . . . What are the results? The assessment of property in the Commonwealth at an average of less than 50 per cent. and possibly 25 per cent. of its actual value, in the face of the mandates

[1] See, among other cases, *Lehigh Coal and Navigation Co.* v. *Northampton County*, 8 W. & S. 334; *R.R.* v. *Berks County*, 6 Pa. 70; *Coatesville Gas Co.* v. *County of Chester*, 97 Pa. 476; and *County* v. *Water Co.*, 4 D. R. 723.

[2] These words have reference to the locally administered features of the State's tax system.

of the law requiring property to be assessed at full valuation. . . . Assessors, and often the county commissioners, who are parties to the undervaluation of property for taxation, complain of the laws that are passed by the Legislature on questions of taxation, when most of the inequalities which exist are due to the failure on the part of the proper authorities to faithfully execute the laws. . . .

"If the present laws were only faithfully executed, and boards of county commissioners and assessors would strictly obey these laws in the discharge of their duties, it is believed that much of the just cause for complaint against our system of taxation would be eliminated."

These statements are typical of the attitude of State officials. Administrative defects arising out of "the weakness of human nature" are regarded as at once an explanation and an apology for the practical shortcomings of an otherwise adequate tax system. A careful review of accessible evidence in the case largely substantiates this view, and at the same time causes one to wonder at the unwillingness, implied in the activities and in the expressed opinions of those who take this attitude, to regard a large measure of the evil as inevitable.

To turn first to the State-administered tax on corporate loans, it is to be noted that this tax is a not unimportant source of income, from 7 to 9 per cent. of the State's revenue regularly coming from this source. As is so often the case in the United States, the chief difficulties that arise in the administration of the tax are the outcome of interstate complications. The distinction between bonds and shares of stock made by the Supreme Court of the United States has been a fruitful breeder of obstacles to the effective taxation of corporate bonded debt.

So far as concerns the taxation of capital stock or of shares of the same, the United States courts have uniformly maintained, in line with the decision in the Dela-

ware Railroad tax case, that a State tax on shares of stock, even tho these are held by non-residents of a State, is a tax on the corporation, and not on the stockholder, and is therefore valid. In *New Orleans* v. *Houston*[1] it was further held that the assessment of a tax upon the shares of holders appearing on the books of a company, which the company is required to pay irrespective of any dividends or profits payable to the shareholder out of which it might repay itself, is substantially a tax upon the corporation itself. Capital stock, therefore, may be taxed by a State, regardless of the residence of the holders of shares.

The legal status of a tax on bonded debt (or, as the courts would say, on the bonds which constitute it) has been quite different. Here it has been held that a State cannot tax the bonds of a corporation held by non-residents, on the ground that bonds are debts owed by a corporation, the property of its creditors, and therefore taxable only in the State of the domicile of those creditors.[2] In *Bells Gap Railroad* v. *Commonwealth*,[3] as distinguished from the decision in *New Orleans* v. *Houston*, the court decided that a tax on bonds, tho paid by the corporation, "is a tax on the bondholder, and not on the corporation," in which the manner of collection was simply a matter of convenience.

From a financial standpoint it is difficult to see why bonds should be treated differently from stocks in the matter of taxation. From this point of view the early Pennsylvania decision in *Maltby* v. *Reading & Columbus Railroad Company*[4] would seem to have the sounder basis. In this case the court says: "Corporate stocks are property here, though owned beyond our jurisdiction. . . . But loans are not stocks, and yet the loans and stock of a railroad company resemble each other in many respects. Both

[1] 119 U. S. 265.
[2] *Railroad Co.* v. *Pa.*, 15 Wall. 300.
[3] 134 U. S. 239.
[4] 52 Pa. 140.

are subscribed under the authority of a special law, and both are so far capital that they are employed for the same general purpose. The certificate of stock . . . is mere paper evidence of property existing here. . . . Is the bond . . . anything more? . . . It is founded upon and derives its value from a mortgage, but that mortgage is here, and the franchises and properties which the mortgage binds are here within our jurisdiction. . . . Now, although loans and stocks are distinguishable for many purposes, yet the legislature created no very great solecism in treating loans as taxable property within our jurisdiction. . . . Corporate loans, though in some sense mere debts, are like moneys at interest, taxable as property."

If, however, the decision of the United States Supreme Court in *Savings Society* v. *Multnomah County* (in which the constitutionality of a tax levied within a State upon a foreign-held mortgage, secured by real estate situated within that State, was upheld) should be held to apply to corporate forms of mortgage indebtedness as well as to individual mortgages, a noteworthy change would thereby be effected in the status of taxes on corporate capitalization. Such an implication, at any rate, was drawn from the decision by the committee of the New York legislature of 1899, which drafted a bill providing for the taxation of debts and obligations secured by mortgages of real estate within the State.[1]

But, leaving the Multnomah County case out of consid-

[1] The following gives the view of the committee: "Can corporate bonds and other mortgage debts, when owned by non-residents, be taxed by this State? The owners are beyond our territorial jurisdiction, and of course no personal liability for a tax can be imposed upon them. But the debts themselves are within our power if we can reach the debtor or the security. This is shown by the familiar practice of attaching or garnisheeing debts owed to residents of other States or countries in judicial proceedings. The Supreme Court of the United States has held that an attachment in Iowa of a debt owed by a citizen of Iowa to a citizen of Kansas was valid (although personal jurisdiction of the Kansas person was not obtained), and that payment of the debt under the order of the Iowa court was made binding by the Constitution of the United States upon the courts of Kansas. (*Chicago, etc., Railway Co.* v. *Sturm*, 174 U. S. 710.) It is said that the situs of intangible property is at the domicile of the owner, and for some purposes the state-

eration, the course of the Supreme Court has not been entirely consistent. In *Railroad Company* v. *Collector*,[1] a case which arose over the Federal Revenue Law of 1864, taxing dividends, coupons, etc., the court held that the law was not invalid because under its provisions the tax was withheld from the dividends and interest of stockholders and bondholders not residing in this country. The same decision was reached in *United States* v. *Erie Railway Company*.[2] In this case Justice Field pointed out in a dissenting opinion the conflicting nature of these two decisions with that in *United States* v. *Railroad Company*,[3] where it was held that such a tax was a tax on the creditor, and not on the corporation, making the tax under the law in question, according to the opinion arrived at in the case before the court, a tax on non-resident aliens.

As matters stand, leaving the Multnomah County case still in doubt, the States may tax only that portion of a corporation's bonded debt which is held by residents. Under the Pennsylvania law, as laid down by the courts,[4] the burden of proof as to the residence of its bondholders rests with the corporation; *i.e.*, corporate loans in the operation of the law are assumed to be held by residents in the absence of proof to the contrary. As has already been indicated, this advantage is more than counterbalanced by the disadvantage under which the State is placed in the collection of the tax on resident holders of bonds in a foreign corporation, for the courts of the State have held that a State cannot, consistently with the Constitution of the United States, impose upon a foreign corporation,

ment is correct. The rule, however, belongs to the common law, It does not possess constitutional authority. The legislature is competent to change it. The Supreme Court of the United States has sustained against non-residents a statute of Oregon imposing taxes on mortgages. (*Savings Society* v. *Multnomah County*, 169 U. S. p. 421.)" *Report of Joint Committee*, p. 12.

[1] 100 U. S. 595. [2] 106 U. S. 327.

[3] 17 Wall. 322. The same general doctrine is to be found in *Haight* v. *R.R. Co.*, 6 Wall. 15, and in *R.R. Co.* v. *Jackson*, 7 Wall. 262.

[4] *Commonwealth* v. *Lehigh Valley R.R. Co.*, 129 Pa. 429.

when paying the interest on its bonds in another State, the duty of deducting from the interest paid out the amount assessed upon that portion of the bonded capital held by residents of the State levying the tax.[1]

It is hard to avoid the conclusion that the simplest and most equitable way out of present difficulties would be to discard the prevailing theory that the tax on bonds is a tax on the holders thereof, and to advert to the Connecticut scheme of taxing the corporation as a taxable entity on a property valuation, in the determining of which bonded debt as well as capital stock is taken into consideration.[2] By this means, constitutional as well as practical administrative difficulties would be avoided, and between corporation and corporation a large measure of existing discriminating tax exaction would disappear. The magnitude of the inequalities arising in this respect because of the restriction of the tax on bonds to resident bondholders, as well as because of the regard that is paid in practice to the indebtedness of a company when appraising its capital stock, may be inferred from the following table, prepared by the Committee on Railroad Taxation of the Pennsylvania Tax Conference:[3]—

BONDS AND STOCKS OF CERTAIN RAILROADS OF PENNSYLVANIA AND THE AMOUNT OF BONDS HELD IN PENNSYLVANIA.

	Total Bond Issue.	Amount held in Pennsylvania.	Appraised value of stock.	Per cent. of railroad in Pennsylvania.
(1)	$450,000	$116,000	$450,000	All
(2)	352,000	63,000	1,400,000	All
(3)	72,800	2,700	383	All
(4)	230,000	—	384	All
(5)	240,000	8,000	48,000	All
(6)	2,900,000	—	127,000	0.50
(7)	2,280,000	2,100,000	2,900,000	All
(8)	200,000	200,000	80,000	All
(9)	1,800,000	1,800,000	600,000	All
(10)	275,000	—	—	All
(11)	3,400,000	6,000	2,000,000	All

[1] See p. 55.

[2] See note on p. 70 for a further statement as to the financial effects of such a scheme, if applied to Pennsylvania.

[3] The Tax Conference of Pennsylvania Interests was an informally constituted

"A moment's inspection of the above table—and a great many more examples might have been given—will show that it is impossible that the system of taxing railroads in Pennsylvania could act equitably as between these roads. Take the fourth example: This is a road with $230,000 of bonds, not one of which is held in the State, and capital stock of the appraised value of $384. The State taxes on this road outside of the tax on gross earnings were, in 1893, five mills on $384, or $1.92. The eighth road does not differ much in its character from the fourth, and is worth about the same. This road has $200,000 of bonds, all held in the State, and $80,000 capital stock. Its State taxes outside of the tax on gross earnings were $1,000. The last road but one paid no State taxes on capital stock or bonds, as all of its bonds were held by non-residents, and its stock was worthless. The road with $2,900,000 of bonds, 50 per cent. of whose mileage is in the State, would pay nothing on bonds, and the capital stock tax on but $62,350. This is certainly not equitable taxation."[1]

As a further illustration may be cited the case of "a company which never paid a dollar of State tax upon capital stock prior to 1895. The New York, Pennsylvania and Ohio Railroad Company, with a capital stock of $44,999,350 and $129,853,080 bonded and other indebtedness outstanding, the cost of the road and equipment being $170,987,509, was the owner of 429.59 miles of railroad, extending from Salamanca, N.Y., to Dayton, Ohio, it being the connecting link between the east and the west of the Erie Railway system, and competing with the Lake Shore, Baltimore and Ohio, and Pennsylvania railroads. Of the total mileage,

body of thirty members, including five men from each of the following six groups of interests: labor, agriculture, commerce, manufactures, transportation, and county commissioners (the county commissioners representing the county tax-administrative point of view). The reports of the conference lack unity and are of varying value. Most of them, however, contain significant facts, and some give evidence of painstaking investigation and telling analysis.

[1] *Report of Committee on Railroad Taxation, Tax Conference of Pennsylvania Interests*, p. 16.

126.18 was within the State of Pennsylvania. As stated before, this company has never paid to the State a tax on capital stock or bonds, because it was claimed that the property was 'bonded' far beyond its actual value, and therefore the capital stock was worthless. The bonds were owned by non-residents of the State, and therefore not taxable. . . . This case is given as an example, showing how many corporations have heretofore escaped taxation by reason of a funded debt, which is capital invited by the stockholders with the hope that they will derive additional benefit from such added capital."[1]

It would take us too far afield adequately to discuss methods of taxing corporations on their capitalization. But it is surely safe to assume that from a financial standpoint the taxing of bonded debt to the corporation, as capital investment, is preferable to the taxing of individual portions of that indebtedness to individual holders thereof. The legal analogy between the mortgage indebtedness of individuals and the bonded indebtedness of corporations should not be carried over into matters of taxation. In the case of individuals it generally involves injustice to tax both property and mortgage debt, because the real taxable property, when the mortgage is taxed, is only the surplus above indebtedness. But corporate bonded debt, under honest capitalization, is a portion of the corporate capital investment. To tax indebtedness of this character, in addition to the capital stock, is not double taxation, for, under the conditions assumed, capital stock is representative of only a portion of the corporate property. A number of States, notably California, Connecticut, Illinois, and Maryland, permit individuals to deduct indebtedness, but forbid the same practice on the part of corporations. This practice is clearly in line with right theory. In Pennsylvania the law contemplates no deductions,

[1] *Report of the Auditor-General of Pennsylvania for* 1897, p. vi.

either in the case of individuals or of corporations. But in practice, in the case of the latter, as in the instances cited above, capital stock may be "actually valueless" because of an "over-bonded" condition. To take refuge in this situation against the payment of taxes, because of the supposed taxation of bonds in the hands of holders, is productive of a state of things that means not only inequality in taxation, but loss of revenue to the State. In this is to be found the main ground for taxing bonded debt as corporate capital in preference to taxing individual shares of that debt, even tho in the latter case, as in Pennsylvania, the principle of partial stoppage at the source is applied.[1]

The State and Local Taxes on Personalty.

The local taxation of personalty is of so little importance in Pennsylvania that any but brief consideration of its workings would be out of place. The locally administered State tax on vehicles used for hire, and the local tax on horses and cattle, together constitute the last remnant of an earlier order of things, under which tangible personalty was much more widely taxed than it is at present. Under existing arrangements tangible personalty bears little of the burden of the tax on personal property. Of the total

[1] The Tax Conference of Pennsylvania Interests proposed a bill on the lines of the Connecticut system as a substitute for the present Pennsylvania plan. (See p. 90.) The Auditor-General's Department subsequently looked into the effect of such a move from the standpoint of revenue yield. A summary of the results of that investigation, so far as it applied to railroad taxation (187 railroads reporting), is as follows:—

Year.	Taxes under Present Law.				Under conference bill.	Increase.
	On stocks.	On loans.	On gross receipts.	Total.		
1895 .	$1,122,858	$470,039	$382,772	$1,975,669	$2,097,238	$121,569
1896 .	1,037,490	441,517	339,755	1,818,763	1,867,229	48,466

personalty valuation, State and local, for 1904 ($859,497,792), little over 5 per cent. ($43,363,530) was made up of tangible personalty. Of the latter amount the bulk ($42,747,405) consisted of the valuation of horses and cattle for local taxation; but, even so, "the farmer" can hardly be said to be "bearing the burden of the tax on personalty." Furthermore, the valuation is uniformly low, ranging from the relatively high valuations of the more valuable live stock of urban and suburban districts to the lower valuations of rural areas.[1] Evasive returns[2] on the part of taxables and generally inaccurate valuation on the part of assessors, while on the one hand magnifying inequalities in the operation of the tax, at the same time in the majority of cases further reduce its absolute burden. In the fall of 1904 the Department of Internal Affairs sent a series of questions to local assessors, asking for information, among other things, as to the extent of evasion of this tax. Of the replies received, 134 reported that there was no evasion or no great evasion, 92 reported that the law was evaded all the way from 10 to 50 per cent., and 14 made replies that were not responsive. In commenting on these returns, the Secretary of Internal Affairs says: "It is probably a fact that the laws throughout the State on this subject are poorly executed, and are quite generally evaded. The reports of these assessors on this subject are probably as favorable to the side of faithful execution as the facts will warrant."[3] Locally gathered evidence confirms this view.

At the same time there is practically no disposition on the part of officials to favor repeal of the law. Suggestions, however, looking towards its amendment, in the direction of greater rigor of administration, are frequent. These

[1] The average valuation per animal of horses and mules over four years of age for the whole State in 1904 was $47, and for neat cattle over four years of age, $19.

[2] The exemption of animals under four years of age makes the law peculiarly susceptible of evasion.

[3] *Report for* 1894, p. 84 B.

usually emphasize the desirability of altering or abolishing the four-year age limit.

From the standpoint of productivity the tax is a relatively unimportant source of local revenue. In 1904, of a total property valuation for purposes of county and local taxation of $3,676,796,517, little over 1 per cent., or $42,747,405, was on horses and cattle. And yet even the relatively small revenue derived from this source, considered in connection with the slight burden and comparative ease of administration of the tax, is in itself of sufficient significance both to account for the attitude of administrative officials and to afford little ground for a belief that the tax will very soon meet the fate of its erstwhile companions,—the State taxes on watches, pleasure carriages, and household furniture.

The locally administered State tax on personalty is almost exclusively a tax on intangible personalty, less than $\frac{3}{16}$ of 1 per cent. of the total revenue from the tax (1904) coming from the taxation of vehicles used for hire. Indeed, the latter is a tax of such small importance financially, and its administration has become so slipshod and inefficient, that both State and local officials are persuaded of the desirability of its repeal. The story of careless administration is almost as old as the tax itself. Going back only as far as 1892, however, we find that in that year less than $2,000 in taxes were levied on hacks, omnibuses, etc. In Centre, Fulton, Snyder, and Wyoming Counties, for instance, the valuations of this class of property were respectively $50, $375, $95, and $150. The Secretary of Internal Affairs, commenting on this state of things, says, "It would be better to repeal this branch of tax law than to have it so poorly executed."[1] In 1894 the returns of Berks, Cameron, Fulton, McKean, Potter, and Sullivan Counties, indicated "that they had no money

[1] *Pub. Docs.*, 1892, vol. iii., p. A 165.

whatever invested in this branch of property."[1] In 1897 it was "undoubtedly a fact that hundreds of thousands of dollars' worth of this class of property escapes taxation."[2] In 1901 the Secretary of Internal Affairs was convinced that, "the sooner the laws authorizing the valuation of this property for taxation are wiped out, the better it will be for the integrity of the Commonwealth and those executing its laws."[3] In the replies sent by assessors to the Secretary of Internal Affairs in 1904,[4] 135 out of 227 reported failure to assess this class of property. But further comment on this score seems useless, for the figures of assessment themselves carry conviction of the fact that the tax on personal property of this description, as at present administered, is little short of farcical, and that its disappearance, if not by statutory repeal, at least by virtue of its own anæmic condition is soon to be expected.

Since 1886, the State Board of Revenue Commissioners, through its executive officer, the Auditor-General, has made one of the prime objects of its activity the careful enforcing of the tax on intangible personalty. Largely because of the constant effort to realize this aim, and despite shortcomings that are inevitable in the administration of personal property taxes everywhere, the tax on moneys at interest has for twenty years past been so important and so constantly expanding a source of revenue as always to be a sufficient justification for its own existence. Both by circular letters and special written communications, as well as by the personal investigation and advice of special representatives, the Auditor-General's Department has sought to key up the activities of county commissioners and local assessors to a high pitch of efficiency. Such intervention, furthermore, is not the outcome of sporadic or random inference as to local administrative shortcom-

[1] *Pub. Docs.*, 1894, vol. iv. p. A 189.
[2] *Ibid.*, 1897, vol. viii. p. 66 A.
[3] *Ibid.*, 1901, vol. x. p. B 56.
[4] Referred to above on p. 71.

ings, but is based on a careful analysis of the detailed annual county returns made by county commissioners. A decrease in valuation is always made the occasion of special comment, and usually of special inquiry. In 1897, for instance, "the returns of the county commissioners in many instances showed an unusual decrease in the valuation of personal property, and in a few cases was so marked that we were obliged to send a competent officer to the derelict counties to make an examination of the records of the county commissioners and to ascertain wherein the assessors were at fault, and some queer ways of juggling the State out of its just revenues were discovered and exposed.

"A new practice was begun of sending to the assessors of every ward, township, or borough showing a decrease, a circular letter containing a series of questions to be answered that would explain the shortage, and calling their attention to the duties of the assessors as prescribed by law, and the severe penalties for refusal or neglect to perform the same. An example made of one or two assessors for neglect of duty in several diverse localities in the State would have a wonderfully salutary effect in securing more prompt and frank replies from some of these wilfully stubborn officials.

"The pursual of this course increased the labor of the Department very much, but as a result it increased the valuation in two years to the sum of $52,667,812.67." [1]

Further to illustrate, in 1901 "in counties where the decrease in the return of personal property aggregated a considerable sum, 307 assessors were interrogated as to the cause for the decrease in their districts, from whom 302 answers were received, five having died or moved out of the State. In many instances satisfactory reasons for the decrease were given, while in others additional personal

[1] *Report of Auditor-General*, 1897, p. xiii.

property was secured through a revised and corrected return.

"During the year 1901 agents were sent to the county seats to make investigation as to the method of assessing and collecting the State tax on personal property. Through the reports of these agents it appears that considerable carelessness and indifference exist on the part of a number of assessors. In many instances it was found that the assessor did not compare the return made by the taxable with the record of judgments and mortgages entered in the commissioners' office as required, vast sums of personal property thus escaping taxation. The county commissioners should exercise the authority vested in them by the Acts of 1889 and 1891, adding such judgments and mortgages, whereby a very material increase of the return of such property could be secured."[1]

As indicated here, the administrative deficiencies of the personal property tax are in large measure to be laid at the door of the local assessors. In the first place the law[2] requires that blanks for the listing of personal property shall be furnished all citizens, whether the assessor may believe that such persons have personal property or not. The usual practice of assessors, however, is that of furnishing blanks only to persons who are thought to have personal property to return.[3] The result is that some possessors of taxable personalty are relieved of the necessity of making a return. In significant instances, too, in the case of persons to whom blanks are distributed, no further effort is made to enforce the making of returns. For instance, there recently came to my notice the case of a Philadelphian of means, the custodian also of certain trust funds, who, on moving into an adjoining suburban county and on being furnished with the usual blanks,

[1] *Report of Auditor-General*, 1901, p. v.

[2] Act of June 1, 1889, sect. 2.

[3] See *Report of Auditor-General*, 1894.

made returns of taxable personalty in his possession. On delivering these returns to the assessor, he asked that official what would have happened, had no return been made and the listing blank destroyed. The assessor replied that he would have done nothing. There is little reason to doubt that this is a not uncommon attitude on the part of assessors. Further than this, there is practically no disposition to question the accuracy or truthfulness of returns of personalty.[1] For instance, in Montgomery County, where there are over 43,000 taxable persons, according to the testimony of a county official experienced in such matters, the number of cases per year in which valuations are raised by doomage could be counted on the fingers of two hands. And in such cases it is significant to note that the additional valuation of 50 per cent. is almost invariably paid without a murmur. Investments of money in mortgages on Pennsylvania real estate are quite regularly returned for taxation because of the administrative arrangement,[2] which makes their assessment, except under conditions of grossest carelessness, practically unavoidable. Among those conversant with Pennsylvania tax administration there is no suspicion that mortgages on Pennsylvania real estate are even infrequently recorded in the names of fictitious non-resident mortgagees.[3] But in the case of resident holdings of foreign securities the assessment of such personalty is the exception rather than the rule.

In this connection much more might be accomplished

[1] In Pennsylvania there is nothing approximating, for instance, the "zealous and faithful performance of duty" of the Boston Dooming Board. See *Report of Massachusetts Tax Commission of* 1897, pp. 60, 61.

[2] See p. 56.

[3] The Wisconsin Tax Commission of 1898, in its special report, p. 112, comments on such a practice in Wisconsin: "Persons well informed upon the subject state that as much as 90 per cent. of the mortgages in Milwaukee County are recorded in the names of non-residents. In localities where assessors do not usually examine mortgage records for purposes of assessment, the practice mentioned does not prevail to any great extent."

if assessors would make use of all available sources of information in discovering individual holdings of taxable personalty. One such source, and a fruitful one, to which recourse is apparently never made, might well be the accounts filed in settlement of estates in the orphans' court. A county official who has had years of experience both in the county commissioners' office and in the office of the register of wills, recently said in an interview that he could by this means, at small expense to the county, annually add thousands of dollars to the tax receipts of the State. The State law contemplates the use of all such sources of information; but, inasmuch as the law is not explicit in this connection, no inquiry of this nature is made.

Figures indicating the extent to which intangible personalty escapes taxation in Pennsylvania will be given later.[1] Enough has been said here to emphasize the point that laxness of administration is in part at least responsible for the existing lack of uniformity and of universality in assessment.

From the standpoint of productivity the State tax on personalty is quite significant. From a valuation for taxation of $145,286,762 in 1885, the year before existing administrative arrangements went into effect, the amount gradually rose to its highest point of $848,054,189 in 1902. In 1903, for the first time in the working of the law of 1885 with its later amendments, there was a decline in valuation to $847,071,050, and in 1904 a further decline to $816,750,387, "properly chargeable to the reckless and careless manner in which the work of assessment of this class of property is carried on."[2] But these reductions of valuation are probably not symptomatic of any permanent tendency. A periodical spasm of activity on the part of the Auditor-General's department is likely at any time to

[1] See p. 83 *et seq.*

[2] *Report of Secretary of Internal Affairs*, 1904, p. B 6.

stimulate local officials to more effective endeavor. At any rate, compared with other important sources of State revenue, the showing made by the personal property tax is far from unfavorable. The following table will illustrate this point:—

Period.[1]	Total receipts of State.	Receipts from State tax on loans.	Percentage of total State receipts from tax on loans.	Receipts from State tax on capital stock of corporations.
1885 . .	$8,179,714	$553,323	6.63	$1,019,691
1886–90 . . .	41,722,228	1,520,965[2]	3.62[2]	5,047,968
1891–95 . . .	61,912,466	5,662,162	9.08	15,174,540
1896–1900 . .	72,309,476	6,308,011	8.72	20,490,443
1901–05 . . .	105,333,592	7,663,981	7.28	32,204,597

Period.[1]	Percentage of total State receipts from State tax on capital stock.	Receipts from State tax on personalty.	Percentage of total State receipts from State tax on personalty.
1885 . .	12.46	$620,971	7.59
1886–90 . . .	12.10	4,125,611	9.89
1891–95 . . .	24.51	12,339,244	19.93
1896–1900 . .	28.33	12,835,977	17.75
1901–05 . . .	30.57	15,945,351	15.14

Extended comment on these results is not necessary, as they are virtually self-explanatory. Compared with the State-administered tax on bonds, the locally administered State tax on personal property has not only regularly been the more significant from the standpoint of yield, but it has maintained its relative position of greater importance. Compared with the State tax on the capital stock of corporations, the results are not so favorable. This is the banner tax of Pennsylvania's system, and its measurably automatic adjustment to the growth of corporate wealth

[1] The figures are aggregates for five-year periods, except for the single year 1885, the year before existing administrative arrangements for the personal property tax went into effect. Figures are compiled from reports of State Treasurer and Auditor-General.

[2] During this period considerable sums were withheld by corporations, awaiting the outcome of important litigation bearing on the constitutionality of the State tax on loans.

guarantees a steady increase of revenue from taxation that is not to be expected of tax practice which leaves the listing of property to the initiative of tax-payers or to the guesswork of assessors.

The expense of collecting the tax on personalty has always been slight. In 1895, for instance, the cost was $\frac{1}{2}$ of 1 per cent. compared with $8\frac{8}{10}$ per cent. for the collection of all licenses, $4\frac{7}{10}$ per cent. for the collateral inheritance tax, and $1\frac{8}{10}$ per cent. for the tax on corporate loans. In 1896 the cost was but $\frac{5}{100}$ of 1 per cent. compared with $9\frac{4}{10}$ per cent. for all licenses, $5\frac{6}{10}$ per cent. for the collateral inheritance tax, and $\frac{8}{10}$ of 1 per cent. for the tax on corporate loans.[1]

Equally significant with the last table should be a comparison of the rates of increase, for the State as a whole, in the number of taxable persons and in the valuations respectively of real estate and of personal property. Both real estate and personalty, it will be recalled, are valued by local assessors, so that from an administrative standpoint the comparison is eminently fair. The percentage figures in each case represent the percentage of increase in valuation for the year in question over the valuation for an annual period three years earlier. The figures are given for every third year merely for the sake of brevity. Nothing of significance in the result is lost thereby.

YEAR.	Number of taxables.	Percentage of increase over preceding period.	Valuation of taxable real estate.	Percentage of increase over preceding period.	Valuation of personalty taxed by State.	Percentage of increase over preceding period.
1885 .	1,284,322	—	$1,697,202,153	—	$145,286,762	—
1888 .	1,382,909	7.68	1,840,433,540	8.44	429,751,583	195.79
1891 .	1,532,895	10.84	2,092,336,883	13.68	575,295,999	33.87
1894 .	1,684,946	9.92	2,389,232,748	14.19	613,927,285	6.71
1897 .	1,865,496	10.70	2,685,199,712	12.38	673,669,421	9.73
1900 .	1,929,777	3.44	2,766,829,685	3.04	722,866,132	7.30
1903 .	2,125,579	10.14	2,986,197,041	7.96	847,071,050	17.18

[1] *Report of Auditor-General*, 1897.

Aside from the exceptional increase in the valuation of personal property for the years immediately following the passage of the new law of 1885, these figures reveal little that can be made the subject of conclusive or significant comment. There are manifest, to be sure, evidences of the customary carelessness and usual vagaries of tax administration. But, further than this, the results are surprising, in that there is nothing that would indicate any progressive failure to keep pace with the growth of personalty that is not likewise to be noted in the case of realty. In fact, taking the increase for the whole period from 1888 to 1903, which is 53.70 per cent. in number of taxables, 62.26 per cent. in valuation of real estate, and 97.10 per cent. in the valuation of personal property, if failure to respond to actual increase in property values is to be imputed anywhere, it is probably not in its most aggravated form in the case of the personalty tax.

The experience of Pennsylvania during the past twenty years seems to be unique in this respect. In Wisconsin, for instance, during the twenty-year period from 1877 to 1897, the aggregate assessed valuation of real estate increased 89.50 per cent., while the valuation of personal property increased only 40.50 per cent.[1] In California, a State in which "the statute depicts a general property tax which conforms very closely to the ideal for that sort of tax," during the seventeen years from 1880 to 1896 the increase in the assessed valuation of real estate was 125 per cent., while the valuation of personal property increased only 8 per cent.[2] To be sure, the exploiting of new lands in these two States has been much more rapid during recent years than in Pennsylvania, and the increase in land values has in consequence been very rapid; but results similar in character, if not in degree, characterize the ex-

[1] *Report of Wisconsin Tax Commission of* 1898, p. 109.

[2] Plehn, *The General Property Tax in California.*

perience of the older States in the attempt to tax personal property.[1]

Pennsylvania practice in the assessment of real estate is probably as far from ideal as it is in the assessment of personalty. The investigations of the Tax Conference of Pennsylvania Interests, the annual reports of the Secretary of Internal Affairs, and the observations of well-informed persons not officially connected, all go to show that valuations of real estate by Pennsylvania assessors are notoriously low and lacking in uniformity. It is probably not far from the truth to say that the assessment of realty in the Commonwealth averages less than 60 per cent. of the actual value. According to the results of an investigation by the Pennsylvania Tax Conference, variations have ranged all the way from an average assessment of 17 per cent. of actual value in the case of Luzerne County, to 100 per cent. in the cases of Berks, Chester, and Perry Counties. The average variation, however, is from 50 to 80 per cent. From this practice no harm results between county and county, but it does lead to disparity of tax burden between different districts in the same county, and also seriously interferes with the endeavor to raise assessments in response to actual growth in realty values.

For purposes of statistical illustration of the extent of local variations in the assessment of personalty, figures of realty assessments are ordinarily regarded as supplying a satisfactory basis of comparison. But here, again, the local variations in real estate valuation destroy the accuracy and minimize the significance of such comparisons. At the same time, by making certain qualifications, comparisons of this sort have some value, in that they give at least an approximate idea of the results of present practice. In 1904, for the State as a whole, the valuation of personal property (assessed for both State and local pur-

[1] See, for instance, Seligman's *Essays in Taxation*, pp. 27, 28.

poses) was 24.73 per cent. of the valuation of real estate. For Allegheny County, in which are situated the large cities of Pittsburg and Allegheny, the percentage was 21.07; for Philadelphia, 33.45 per cent.; for the suburban counties of Delaware and Montgomery, 19.23 and 29.37 per cent. respectively; for the largely agricultural counties of Bucks, Columbia, Juniata, Lancaster, and Lebanon, 33.34, 17.28, 15.87, 26.69, and 15.31 per cent. respectively; and for the anthracite coal mining counties of Lackawanna, Luzerne, and Schuylkill, 20.81, 11.68, and 12.08 per cent. respectively.

Within each of these groups of counties, possessing the characteristics respectively of urban, suburban, agricultural, and mining communities, one would naturally expect, under conditions of ideal tax administration, approximate identity in the proportion of personal property to real estate subject to assessment. The fact that there is not such identity is not to be attributed to the crowding of personal property into certain districts for reasons connected with the law itself or with its administration, as in Massachusetts.[1] In Pennsylvania, as already indicated, intangible personality is taxed at a uniform rate throughout the State; and, as for the changing of domicile on the part of wealthy persons as the result of an understanding with assessors as to the amount for which they shall be taxed, there is no occasion for such a roundabout method of evasion in Pennsylvania. Variations are to be attributed in some degree to differences in the actual as well as in the assessed value of real estate on the one hand, as well as to differences in actual holdings of personalty on the other; but the chief reason is, doubtless, to be found in the varying degrees with which official carelessness characterizes the administration of the law in different localities.

In commenting on the extent to which taxes on per-

[1] *Report of Massachusetts Tax Commission of* 1897, p. 65.

sonalty are evaded, it is quite usual to make comparisons of the experience of different States, showing the ratio of personalty to realty subject to taxation in each instance. For instance, in the annual report of the Comptroller of New York for 1898[1] there are figures showing that "in New Jersey the ratio of personal property to realty, paying taxes, is 17.4 per cent.; in Illinois, it is 17 per cent.; in Indiana, 26 per cent.; in Massachusetts, 22.7 per cent.; in Pennsylvania, 20.8 per cent.; and in Ohio, which has the most stringent tax-listing system in the country, it is 30 per cent." The conclusion usually drawn from figures such as these is that a higher ratio of personalty to realty in the case of one State than in another is an index of greater efficiency in the taxation of personalty in the one case than in the other. As a matter of fact, no such inference can safely be drawn. To give a single significant illustration: In Massachusetts, real estate valuations, owing to falling land values (1897),[2] have, as a rule, been high, and in Pennsylvania, as we have seen, valuations have been low. In Massachusetts most of the important forms of tangible personalty are taxed, so that a very large proportion of the personal property tax comes from this source, whereas in Pennsylvania most forms of tangible personalty are exempted from taxation, with the result that the bulk of the personalty tax revenues come from the taxation of intangible personal property. For these as well as for other reasons, conclusions drawn from ratios like the above, in which the bases of comparison are so diverse, obviously possess little value for comparative purposes.

But, further, even with reference only to Pennsylvania, figures of this sort signify little. To say that the ratio of personalty to realty in Pennsylvania, paying taxes, is 20 per cent., gives little or no idea of the extent of tax eva-

[1] Page xvi.

[2] *Report of Massachusetts Tax Commission of* 1897, p. 30 *et seq.*

sion. Indeed, when it is borne in mind that investments in the shares of domestic corporations are taxed to the corporation, that the equipment of manufacturing companies is by design practically exempt from taxation, that mercantile establishments are not taxed on their stocks in trade, but pay license fees, and that most other forms of tangible personalty are not taxable, a 20 per cent. ratio, in lack of evidence to the contrary, may or may not mean tax evasion. But evidence of a conclusive nature is not wanting. The testimony of officials and tax-payers, the estimates of investigating commissions, and the more special results of personal investigation in given localities, all go to confirm the oft-reiterated characterization of the personal property tax as incomplete, uncertain, and disproportional to means as between individuals. To produce here more than a few significant facts from the mass of evidence bearing on the subject would be superfluous. A few items of testimony, indicative of the extent and effects of evasion, will serve illustrative purposes.

The Tax Conference of Pennsylvania Interests,[1] as the result of computations, which were as careful as conditions made possible, estimated that the personal property in Pennsylvania properly returnable for taxation under the personal property tax laws amounted to $1,004,263,739, of which in 1895 personal property to the value of about $770,000,000 was actually returned for both State and county taxes. This estimate of the conference report of property properly returnable, it may be added, was probably too low.

More suggestive, if less comprehensive, conclusions may be drawn from a comparison of the accounts filed in settlement of the estates of deceased persons with the almost contemporaneous personalty assessments of those individuals, as recorded in the office of the county commission-

[1] *Report on Valuation, Taxation, and Exemption in Pennsylvania*, p. 21.

ers. For present purposes the seven largest estates in process of administration during a recent term (1906) of the orphans' court of Montgomery County have been chosen. The other estates in process of adjudication at this term of court were either too small to warrant consideration or were not readily separable into their respective realty and personalty elements. Seven estates furnish no very broad basis of observation; but, even so, there is little reason to doubt that the results are sufficiently typical to be of qualitative significance. The aggregate appraised value of personal property inventoried in these estates was $25,318,696. The assessed taxable value of this personal property during the lifetime of its owners aggregated $92,900, or less than $\frac{2}{3}$ of 1 per cent. of the amount reported by the appraisers after death, when the strong boxes were taken from the safe deposit vaults.[1]

To be sure, this is an instance of evasion so extreme as to lead one to consider it altogether exceptional. And perhaps it is unusual, but probably no more so than are the very large individual holdings of personalty in the cases of which evasion of this sort is most noticeable. In the present instance, at least, the explanation is to be found in the fact that the two largest estates (with actual personal property holdings aggregating $25,192,881, but assessed for taxation at only $52,900) were made up almost entirely of investments in corporate securities, the discovering of which for purposes of taxation is an almost impossible task. Of course, no inconsiderable part of these securities were exempt from taxation because already directly taxed to Pennsylvania corporations. But the volume of foreign securities properly returnable for taxation under the law was still large, and the bulk escaped

[1] In strange contrast with the state of things suggested by these figures is the practice of some excessively honest or excessively ignorant people, who persist in including in their returns of property to local assessors obligations the tax on which is paid by corporation treasurers.

assessment. In the case of the five smaller estates (with personal property aggregating $125,815, and assessed at $40,000) the investments were to a large extent in real estate mortgages and other similar evidences of indebtedness which had become matters of record, with the result that a fair proportion were subjected to taxation.

This example of wholesale evasion and of ridiculous disparity in assessment, although exceptional in its thoroughgoing character, is still typical of a state of things of which numerous further illustrations might easily be supplied.[1] In Pennsylvania, as elsewhere, lack of uniformity, lack of universality, and regressivity characterize the administration of the tax on personal property.

The question as to who bears the burden of the tax on personalty is susceptible of at least an approximate answer. The local tax on horses and cattle, in so far as it is not evaded, is of course in the first instance paid mainly by the farmer, with but small probability that the burden is shifted to the consumer of farm produce. At any rate, the tax is relatively unimportant. Of the State tax

[1] The following table supplies a further rough illustration:—

Township.	Number of taxables.	Intangible personalty subject to State tax.	Average amount of personalty per taxable.
Cheltenham	2,319	$1,286,405	$555
East Greenville	342	163,970	479
Limerick	724	136,935	189
Norriton	451	84,950	188
Salford	216	104,100	482
Upper Dublin	661	258,900	392

These townships are all in Montgomery County. Cheltenham borders on Philadelphia, and is a suburb in which are situated the homes of many of Philadelphia's wealthiest business and professional men. The per capita wealth is undoubtedly very high. The remaining townships are very different from Cheltenham in most respects, but very much resemble one another. They are different sections of a fertile agricultural region, the population of which is mainly of steady, frugal, German stock, among whom poverty is unusual and average comfort high, but among whom, at the same time, the per capita surplus wealth is unquestionably only a small portion of the per capita wealth of Cheltenham township.

on vehicles for hire, even less need be said, as the burden is a practically negligible one. In the case of the more important tax on intangible personalty, however, the question of incidence surely does not lack significance. It is to be regretted that it is not possible to separate assessed personalty into its constituent elements of mortgages, judgment notes, foreign corporate securities, etc. The county "assess books" make no attempt to distinguish what is the nature of the "moneys at interest" assessed. For this reason no accurate figures can be given indicating the relative proportions of foreign corporate securities and of locally recorded evidences of debt subject to assessment. There is sufficient testimony of a reliable but less definite nature, however, to leave little room for doubt that corporate securities make up much the smaller portion of the intangible personalty assessed. It is only at the hands of that very rare person, the over-conscientious individual tax-payer, and at the hands of trust companies, that investments in foreign securities find their way to the assessment list. Mortgages, judgment notes, etc., being matters of record, are much more regularly returned for assessment. As investments in mortgages are made, as a rule, by those seeking relatively safe and permanent forms of investment,—*i.e.*, mainly by trust companies and the smaller individual investor of conservative temperament,—it is not difficult to make the rough but approximately safe generalization that, in the first instance, the tax on intangible personalty is paid by small investors and by trust companies and savings institutions. Significant tho scanty statistical evidence tends to bear out this conclusion, at least so far as trust companies are concerned. In the county of Allegheny, according to official testimony, about one-half of the State tax on personalty is paid by trust companies. In Philadelphia the aggregate valuation of personal property taxable for State purposes in 1904 in

the forty-two wards of the city was $386,456,305.95. Of this sum $252,974,631.29, or 65.50 per cent., was assessed in the five wards in which most of the city's trust and savings institutions are concentrated. In Norristown, a manufacturing town of some 25,000 population that is rapidly taking on suburban characteristics, 33 per cent. of the total personalty assessment of the town was listed against the three local trust companies (1904); and Norristown trust funds are not uncommonly administered by Philadelphia trust companies.

As regards shifting, it is probable that such small taxes as are occasionally paid by individuals on corporate securities are not shifted. The price of securities is determined without reference to the scant possibility of assessment for taxation. Securities of the same solidity and income-yielding power are sold side by side at prices determined without reference to the question whether they are properly taxable or not. This does not hold true, however, of mortgages and similar individual investments that are matters of official record. An examination of the rates of interest on mortgages during recent decades reveals the common practice of charging interest at the rates of $4\frac{9}{10}$ per cent., $5\frac{4}{10}$ per cent., or $5\frac{9}{10}$ per cent., as the case may be. The additional $\frac{4}{10}$ of 1 per cent. above the normal interest rate is evidence of the common practice of shifting the burden of the mortgage tax to the borrower. At present, interest rates have dropped so far that the flat rates of $4\frac{1}{2}$ per cent., 5 per cent., or $5\frac{1}{2}$ per cent., cover the total exaction, the amount of the tax being no less truly included than under the earlier practice.

The Pennsylvania farmer is wont to look with favor on the tax on personal property as in a measure an offset to the really burdensome county and local realty taxes to which he is subjected. His main objection to the personal property tax is that as a State imposition the tax rate is

only four mills, whereas the realty taxes average in the neighborhood of seventeen mills.[1] His remedy for the apparent existing disparity would be to put intangible personalty on the same footing with realty for purposes of taxation. If, however, our earlier analysis is approximately correct, it is at least open to doubt that any relief would result from such a change. The incentive to concealment of holdings of foreign corporate securities would thereby be increased, so that perhaps even less of this form of personal property would then be reached than under present arrangements. On the other hand, the burden on mortgages and similar forms of indebtedness would thereby be very much increased; and this means, as we have seen, a still heavier burden on the owner of mortgaged realty. Hard as it may be for the farmer to accept such a view, it is still probably the fact that the complete abolition of the tax on personal property, coupled with certain reforms in other directions,[2] would be of distinct advantage to the holders of realty as a class, but more especially, of course, to those who borrow on real estate security.

Briefly to summarize:—

The taxes on personal property in Pennsylvania are among the less important features of Pennsylvania's tax system, of which the State tax on the capital stock of corporations and the local tax on real estate make up the most important single elements. The tax on capital stock, together with the tax on bonds, reaches most of what might otherwise, under a more primitive tax system, be taxable as personal property in the hands of individuals. The

[1] The following is typical of this view: "Under our system the farmers of Pennsylvania are being grossly discriminated against and driven out of business, as shown by the census report of 1900, there being a decrease in the rural population in twenty-two counties of over a hundred thousand in the last decade. And, as an illustration of how this system works, take two men: the one investing $5,000 in a farm is taxed from $60 to $90, while the other, investing $5,000 in bonds and mortgages, is taxed $20, making a gross discrimination of from $40 to $70 between the two citizens." Statement of Hon. W. T. Creasy in *Report of National Conference on Taxation of the National Civic Federation*, p. 143.

[2] See p. 92.

State tax on personal property is a device the main purpose of which is to reach such intangible personalty as cannot be taxed by the more effective means. The method is that of local assessment under close State supervision, with severe penalties, at a uniform rate. The results from a fiscal standpoint are significant, but, owing to over-careless and negligent local administration, as well as to other causes that are inevitable in the taxation of personal property, the net effect of the tax is far from satisfactory. Facility of evasion and lack of uniformity are much in evidence in the operation of the tax. Commonly regarded as an imposition which to a degree balances and relieves the tax burden of the owner of real estate, it would seem at least doubtful whether such a result is realized. It seems more probable that by falling largely on mortgages and on the holdings of savings and trust institutions the tax is really a burden on the "widow and orphan," and on the borrower of funds on real estate security, rather than on the surplus investments of the well-to-do.

As regards change of method in dealing with the taxation of personalty, two alternatives are open,—either to make of the personalty tax a county and local tax or to abolish the tax *in toto*. The former is the plan recommended by the Pennsylvania Tax Conference in a bill, drafted some eleven years ago, which embodies a well-related and quite comprehensive series of suggestions for the reform of Pennsylvania's tax system.

The aim of the reforms there proposed was the bringing about of greater uniformity in the tax system of the State by completely divorcing State and local tax administrative arrangements. Involved in this change was the turning over to the counties of a variety of exactions, the revenues from which had previously gone to the State; namely, various mercantile taxes and license fees on the net receipts of brokers, on receipts from county business,

such as the recording of deeds, the probating of wills, etc., on the fees of county officers, on circuses, theatres, restaurants, etc., and on personal property. There was also involved a reform of the State corporation tax, by which the Connecticut method of taxing corporations on the basis of a property valuation, determined by combining capital stock and bonded debt values, was to be substituted for the existing method of separately taxing capital stock, bonds, and gross receipts. As a whole, the changes recommended by the conference were undoubtedly in the right direction. The adoption of the Connecticut method of taxing corporations would have circumvented many of the legal-administrative difficulties that now arise in the taxation of bonds, and would at the same time have substituted a single, simple tax for a more complex, triplicate exaction. And the turning over by the State to the counties of the various other taxes and fees mentioned above would have resulted in substituting direct for roundabout methods of administration. In the view of the Auditor-General, who was in office at the time, the adoption of the plan would at the same time have resulted in a more careful administration of the local finances. He said: "If the local communities will pay their own judges and support their own schools, insane and charitable institutions, it will require very little revenue to support the State government, and the large balances in deposit in banks would be speedily eliminated from the political discussions of the day.

"Do away with the vicious system of legislation and State housekeeping that pauperizes communities and relieves them of the responsibility of their own acts, and ill-considered expenditures, extravagance, and corruption alleged to exist among many of the local authorities would be blotted out of existence; individuals directly liable through taxation for excessive expenditures would look

more closely into them and hold their officers to a stricter accountability, for this liberal bounty of $10,300,000 distributed annually by the State has made many officials very careless in the discharge of their public duties, and less exacting in spending moneys not contributed by their constituents.

"The remedy is very simple, and no suggestion is needed but to urge prompt action by the next legislature." [1]

So far at least as the tax on intangible personalty is concerned, it is very questionable whether complete local administration would so stimulate local self-interest as to result in greater efficiency of administration, especially in the lack of State supervision rendered more urgent by a financial interest in the tax on the part of the State. But this question is at least an open one.

The Tax Conference Bill was not passed by the legislature. A careful statistical investigation by the Auditor-General's Department revealed the fact that the adoption of the measure would result in a revenue loss to the State of some $2,270,000, $3,432,000, and $3,992,000 in the first three years respectively of the operation of the proposed law. In view of the fact that the State was at this time annually paying over to the counties for educational, charitable, and other purposes much in excess of these sums, and in view of the further fact that one of the purposes of the proposed law was to increase direct local revenues at the expense of the State, so as to diminish the degree of local dependence on State financial aid, the logic of the failure of the legislature to act in the matter, merely because of the result of the Auditor-General's investigation, is little short of inscrutable. Other reasons, no indication of which is to be found in official reports, must have influenced this result.

According to the conference plan for the taxation of

[1] *Report of Auditor-General*, 1897, p. xxii.

personalty, the new local levy was to be made at the existing uniform State rate of 4 per cent. It would be equally possible to place personal property on the same footing with real estate, so far as concerns the rate of levy; but the conference method is, perhaps, the less objectionable of the two. Under either scheme there would probably be lost that close attention to details of administration at present furnished by State administration under the incentive of direct financial interest. As already hinted, it is more than doubtful that local pride and local self-interest would compensate for this loss. And under the plan of varying local and county rates not only would the burden of the tax be increased where that burden would best be reduced, but confusion worse confounded would be added to the complexities of the existing administration. Indeed, little could be hoped for from either change. Where other States have tried and have so uniformly failed, more is surely not to be expected of Pennsylvania. Massachusetts, with an unusually painstaking administration, has been able to accomplish little under an arrangement of this sort, and Pennsylvania's tax administration has surely been somewhat short of painstaking.

The remaining alternative is the abolition of the tax on personal property. The most important considerations that are usually advanced against such a move are (1) that the tax on personalty is at least a partial offset to the burdensome taxes on realty, (2) that the loss of revenue involved in such a change would be seriously felt, and (3) that the taxation of national banks, as at present practised, would be made impossible. As for the first consideration, we have seen that the personalty tax does little, if anything, to relieve the tax burden of the real estate owner. The local tax burden on realty is indeed heavy, but the way out of the difficulty is not through the taxation of personalty, but, among other things, through

changes in the direction of increasing local revenues by the heavier taxation (either through State or local agencies) of manufacturing and mercantile establishments.

The loss annually of a revenue of some three million dollars, in spite of present surpluses, is at first sight a matter of serious concern. But entirely adequate and more equitable substitutes might readily be found. Additional revenues might well be drawn from the taxation of the capital stock of manufacturing corporations,[1] as well as from the heavier taxation of other corporations. And, in addition, large income might be derived from the more extended taxation of inheritances. In consequence of the abolition of the direct tax on personal property, as ex-Comptroller Roberts has said with reference to the State of New York, "personal property could well afford, and I believe would be willing, to pay a tax upon the decease of the owner, which would, in a measure, compensate for the relief from taxation granted during the life of the owner. The disposition to evade the payment of an inheritance tax, which is so often adverted to by the press, is almost entirely created, not by the desire to evade the amount of that tax, but by the fear that it will subject the estate to a large local direct tax on personal property."[2]

The third consideration against the abolition of the personal property tax is of a legal nature. National banks as well as other banks in Pennsylvania are taxed by the State on the value of their shares. The opinion seems to prevail that the State cannot remove the tax on moneys at interest without losing the tax on national banks, for the reason that such removal would disturb that uniformity in the rate of taxation prescribed by the National Banking Act of June 3, 1864.[3] It is not for an amateur on legal

[1] See *Reports of Auditor-General of Pennsylvania* for 1891, p. iii, and for 1902, p. vi.

[2] *Annual Report of the Comptroller of the State of New York*, p. xix.

[3] *Revised Statutes of the United States*, p. 1015.

and constitutional questions to suggest a way out of so complicated a question of practice; but, even as matters stand at present, many banks have refused to pay the tax because of existing exemptions on many classes of property, and have been brought to a realization of the error of their way. Wholly to abandon the direct taxation of personal property might, however, operate differently in this respect. At any rate there remains the possibility of a satisfactory alternative method of bank taxation.

All things considered, if double taxation is to be avoided, if more practicable and more direct methods of administration are to be followed, and if a nearer approach to justice and uniformity in taxation is to be made, it is hard to avoid the conclusion that a step in the right direction would be taken in the abolition of the tax on personalty. It is true that the tax operates in such a way as to arouse practically no public outcry; but this is merely evidence of easy-going adaptation to easy-going administration. In Pennsylvania, no less than in Massachusetts and in other States, "the taxation of this form of property is in high degree uncertain, irregular, and unsatisfactory. It rests mainly on guess-work: it is blind, and therefore unequal. Here is its greatest evil, though not its only evil. It is hap-hazard in its practical working, and hence demoralizing alike to tax-payers and tax officials."[1]

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[1] *Report of Massachusetts Tax Commission of* 1897, p. 59.

THE TELEPHONE IN GREAT BRITAIN.[1]

THE development of the telephone industry in Great Britain is of interest to economists as a unique illustration of certain phases of the general problem of the relation between the State and private enterprise. Four years after the invention of the telephone a situation had come about in that country which required the Postmaster-General to determine the future relation between the State and the new industry. We now see clearly, in the light of later experience, that he should have either developed the telephone as a branch of the State telegraph monopoly or surrendered the monopoly back to private enterprise. But he was hampered by fiscal difficulties in the telegraph undertaking, and chose neither alternative. When once the mistake was made, it was difficult to rectify. Successive postmaster-generals applied their best thought to the solution of a problem which became more and more complicated, as one after another the attempted solutions proved failures. A year ago a settlement was finally made by choosing one of the alternatives rejected a quarter-century before. Whether or not this choice was the best, British experience does not yet enable us to determine.

I.

The first crude telephone was brought into England in 1876 by Lord Kelvin, then Sir William Thompson,[2] who

[1] The chief sources of information are: (1) The Reports of the Postmaster-General, hereafter cited as P.M.G. Reports; (2) the Reports of Select Committees of Parliament, with the minutes of evidence taken, in 1884, 1892, 1895, 1898, 1899, 1900, 1903, and 1905, hereafter referred to as Sel. Com., 1884, 1892, etc.; (3) the debates in Parliament, reported in Hansard, and the files of the *Economist*.

[2] Sel. Com., 1895, testimony of Mr. Lamb, assistant secretary of the post-office, in charge of the Telegraph Department.

had seen Bell's model at the Centennial Exposition at Philadelphia, and was one of the first to perceive its commercial value.[1] In the following year Edison invented an improved transmitter,[2] and in 1878 Professor Hughes invented the microphone, making the telephone a thoroughly practical means of transmitting speech.[3] It was now time for the British Post-office authorities to take an interest in the invention. Acting under the Telegraph Acts passed in 1868 and 1869, they had purchased all the telegraphs in Great Britain, and operated them since 1870 as a monopoly. The telephone was an advance in the art of communication, of which as a certain competitor of the telegraph the Postmaster-General was bound to take notice. If it promised to be commercially practicable, it would seem that he ought to introduce it at once into the State telegraph service, or become liable to the charge of obstructing the progress of the industry. At first, however, he failed to recognize its true value. In 1878, in reply to a question in the House of Commons, he said,[4] "The use of the telephone by the German telegraphic administration has been brought to my notice; but, from the result of trials that have been made here by officers of the Post-office, it is evident that the instrument is at present unsuitable for the purposes of public telegraphy, and I do not, therefore, propose to introduce it in that branch of the Postal Telegraph Service." The task of introducing the telephone into Great Britain was thus declined by the State, which had every reason for keeping complete control of the industry. It was quickly taken up by private enterprise.

A company was formed in 1878 to work the Bell patents, and in the following year another company was formed

[1] *Boston Electrical Handbook*, 1904, p. 119. [2] *Ibid.*, p. 132.

[3] Sel. Com., 1905, testimony of Mr. Lamb.

[4] Hansard, Lord John Manners, Postmaster-General, February 21, 1878.

to work the Edison patents.[1] In the same year, 1879, the Bell Company proposed an alliance with the Post-office[2] under the terms of which the department would secure instruments at cost, but the offer was refused by a sceptical postmaster-general. No exchange had as yet been established, although the first exchange in America had been constructed at New Haven in January, 1878.[3] Nevertheless, the Postmaster-General had already become anxious at the possibility of the future growth of the telephone. Tho unwilling to risk the tax-payers' money in order to introduce the new method of communication into the State telegraph system, he deemed it wise to take measures to prevent the infant telephone industry from getting beyond his control. By the Telegraph Act of 1869, granting the monopoly to the Post-office, the term telegraph was declared to mean, not only a "wire or wires used for the purpose of telegraphic communication," which had been a sufficient definition while the industry was under private control, but, in addition, "any apparatus for transmitting messages or other communications by means of electric signals." The Postmaster-General feared this definition might not be broad enough to include the telephone, so he inserted a clause in a bill he was then (1878) introducing into Parliament,[4] which he intended should bring the new invention under his power. This clause declared the word "telegraph" should include in its meaning "any apparatus for the transmission of messages by the aid of electricity, magnetism, or any like agency." This clause, which would have brought the telephone, invented in 1876, within the telegraph monopoly conferred in 1869, passed the Lords, but was stricken out by the Commons.[5] Apparently, the Commons

[1] Sel. Com., 1895, testimony of Mr. Lamb.
[2] *Boston Electrical Handbook*, p. 130.
[3] *Ibid.*
[4] *Cf.* Hansard, speech of Mr. Gray in House of Commons, May 22, 1884.
[5] *Ibid.*

preferred that the telephone should remain a subject for free exploitation by private enterprise.[1] The Post-office authorities, with their vast telegraph business to protect, were not content to rest with this rebuff, but appealed to the Courts. The case came on for trial in the High Court of Justice in December, 1880.[2] Meanwhile, May, 1880,[3] competition between the rival Bell and Edison Companies had been ended by their amalgamation into the United Telephone Company. With the prospect of a telephone monopoly to contend with, the Post-office authorities were all the more eager to increase the scope of their telegraph monopoly by winning the suit for infringement. The main defence of the United Telephone Company was that the telephone differed essentially from the telegraph, for, whereas by the latter electric signals were transmitted, by the former the human voice was carried by means altogether unknown when the monopoly of the telegraph was granted to the Post-office. The Court disposed of this argument by pointing out that, if the telephone really transmitted the human voice, communication by it could not be more rapid than the velocity of sound, whereas it is in fact instantaneous. Therefore, transmission is by means of electric signals, and the telephone comes within the telegraph monopoly. This decision made the Postmaster-General master of the situation.

Private enterprise could now go no further in the task of introducing the telephone into Great Britain without the consent of the authorities responsible for the management of the State telegraphs. Neither could the State introduce the telephone without the consent of the owners of the patents. Unless the telephone was to be excluded

[1] *Cf.* Hansard, speech of Mr. Gray in House of Commons, May 22, 1884.

[2] *Economist*, December 25, 1880.

[3] Sel. Com., 1895, testimony of Mr. Lamb.

altogether from the country, an understanding was necessary. In fact, the whole theory of State ownership of monopolies was on trial. The case was clearly stated by a keen-sighted contemporary observer:[1] "It will depend upon the promptitude and energy with which this and similar improvements are made generally available, whether the ultimate verdict upon the telegraph monopoly will be that it has justified its existence, or that, as a barrier to progress, it ought to be abolished."

The Postmaster-General at that time (Mr. Gladstone's Liberal Cabinet having lately been formed) was Mr. Fawcett, the eminent economist and expounder of John Stuart Mill. He would have been inclined on general principles to adopt a liberal policy towards the infant industry thus placed in his power, but he was anxious to protect his telegraph revenues. The telegraphs had been purchased by the State at an exorbitant valuation.[2] Instead of the £3,000,000 which Jevons had estimated to be a fair purchase price for the plant to be taken over from the several companies, the price had been swelled by payments for good will and expected profits as fixed by the arbitrators to the enormous sum of £8,000,000. Over £2,000,000 in addition had been immediately expended for extensions. The interest upon this huge capital, amounting to £326,417, had never been paid out of the profits, but was charged upon the consolidated fund. Since, however, the State adopted the policy, perhaps commendable, but unbusinesslike, of extending the telegraph service to rural communities more rapidly than commercial principles demanded, and substituted for the graduated rates of the companies a flat rate for all distances, there was still much difficulty in showing a profit. Fawcett had reason to fear that a rapid growth of the telephone industry would deprive his department of a por-

[1] *Economist*, December 25, 1880. [2] P.M.G. Report, 1895, Appendix.

tion of its business, and cause an actual deficit in the telegraph accounts. Accordingly, he granted licenses to the United Telephone Company (April, 1881) and its subsidiary companies to operate exchanges in London and provincial towns upon conditions which he believed would protect the telegraph revenues.[1] At the same time the Post-office established exchanges of its own in a few places.[2]

The prospects now seemed good that, at last, the industry would get a fair start. It was time, for five years had elapsed since the invention of the telephone. In the United States, by March, 1881, there were only nine cities of more than 10,000 inhabitants, and only one of more than 15,000, without a telephone exchange.[3] The license given by the Postmaster-General authorized the licensee to operate an exchange system in a designated city within a radius of two to five miles about a central point upon payment of a royalty of 10 per cent. of the gross receipts.[4] Each license was to run thirty-one years from January 1, 1881, reserving to the Postmaster-General the right of purchase upon due notice at a fair valuation in 1890 or thereafter at the end of seven-year periods. The United Telephone Company chose London for its field of operations, and gave to subsidiary companies concessions to employ its instruments in the provincial towns. In return, these companies contracted to pay a fixed rental per instrument, and agreed not to sell or permit to be used in their respective districts any other telephones than those supplied by the United Telephone Company.[5] During the succeeding year the business of the telephone companies grew rapidly, and the Postmaster-General saw the nominal net profits of this telegraph system cut down from £325,432, in the fiscal year

[1] P.M.G. Report, 1882. [2] *Ibid.*

[3] *Boston Electrical Handbook*, p. 130.

[4] P.M.G. Report, 1882; Sel. Com., 1895, testimony of Mr. Lamb.

[5] Hansard, speech of Mr. Gray, May 22, 1884.

ending March 31, 1881, to £213,892.[1] Taking account of the interest on the capital invested in the State telegraphs, there was in reality a considerable deficit. Fawcett perceived that a more vigorous policy was necessary to protect his telegraph revenues.

Up to this time he had granted licenses freely to the companies which agreed to pay the royalty. Now (1882) he decided to grant no more licenses unless the companies entered into a contract to sell to him, on terms to be fixed by arbitration in default of agreement, as many telephones as he desired, to be used for such purposes as he might think fit.[2] His purpose in inserting this condition was not disclosed, but perhaps he had some scheme for inaugurating competition with the United Telephone Company. He did not use the instruments in the State telephone exchanges, for in 1884, two years after the change of policy, there were only 783 subscribers to the Post-office exchange systems.[3] At that time he had acquired 5,251 instruments by buying them indirectly through an American, of which number he had sold only 332.[4] The only direct result of the new conditions was practically to prohibit the taking out of any more licenses. During the following two years 77 licenses were applied for, but only 8 were granted on account of the impossibility of complying with this condition.[5] The terms of the agreement between the United Telephone Company and its subsidiary companies forbade the stipulated sale of instruments to the Post-office, and consequently no more subsidiary companies could be formed. This prevented the extension of the telephone to the cities not already supplied with exchanges.

At the same time (1882), when this change was made in the terms of the license, the government was deliberating

[1] P.M.G. Report, 1882. [2] Hansard, speech of Mr. Gray, May 22, 1884.
[3] *Ibid.*, Mr. Fawcett, in reply to a question, May 22, 1884.
[4] *Ibid.* [5] *Ibid.*, May 22, 1884.

on another and quite different plan,—the advisability of encouraging competition with the United Telephone Company.[1] Applications for licenses to install exchanges in cities already entered by subsidiary companies of the United were received from a new company, the London and Globe, which professed to own the rights to an improved telephone which was not an infringement of the Bell and Edison patents. In July, 1882, Fawcett decided to grant the applications,[2] and it now seemed as if genuine competition would replace the half-hearted attempts the Post-office had been making. However, the London and Globe Company was quickly restrained by the courts from using its instruments,[3] and in 1884 was bought up by the United Company. When the Postmaster-General found that he could neither secure a large stock of patented instruments to use as he might think fit in his contest with the rising telephone monopoly nor rely upon a rival company to evade the Bell and Edison patents, he adopted an attitude towards the telephone industry which was later described on the floor of the House of Commons as "the policy of strangulation."[4]

Let us examine this policy in detail. The United Telephone Company wished to establish public call stations in London, in order that persons who were not subscribers to the telephone system might be able to make use of the service.[5] This was being done in America, but was forbidden by the Postmaster-General, presumably because he preferred that such persons should be compelled to telegraph their messages. At Manchester, where it was allowed, the company was required to charge one shilling for such messages, that being the minimum rate on telegrams, and to pay 50 per cent. of the gross receipts to the Post-office.[6] The policy of restricting the operations

[1] Hansard, May 19, 1884. [2] *Ibid.*, July 17, 1884.
[3] *Ibid.*, speech of Mr. Gray, May 22, 1884. [4] *Ibid.* [5] *Ibid.* [6] *Ibid.*

of the operating companies to local areas was carried out with similar strictness. The radius of the area was never allowed to exceed five miles,[1] which, in cities like Liverpool and Manchester, excluded large numbers of suburban inhabitants whose interests lay inside the limits of the area. In certain cases, permission was given the companies to extend their wires outside the area upon payment of an extra royalty of 2½ per cent. of the gross receipts from such wires, provided a separate wire was run from the residence of each subscriber the whole distance to the central exchange. This provision prevented the use of party lines for distant subscribers, and added nothing to the revenues of the Post-office.[2] The same attitude was shown in the conditions imposed by the department upon the licensees for the use of trunk lines; that is, telephone lines connecting the exchanges in separate areas. The Post-office would construct the lines and charge the companies an annual rental of £10 per mile for each trunk wire, plus one-half of the revenue above that sum which the companies should derive from their use.[3] The companies accepted these conditions, heavy as they were,[4] and announced their purpose to bear the expense of the trunk lines themselves, in order to give their subscribers to local exchanges the additional benefit of the trunk line service.[5] The Postmaster-General refused to allow this, and required the companies to charge subscribers ten shillings per mile extra for the use of the trunk lines. This rate was practically prohibitory.[6] Another requirement that seemed vexatious to the telephone companies was that in case a person called up on a trunk line was not a subscriber and could

[1] Hansard, speech of Mr. Gray, May 22, 1884. [2] *Ibid.*

[3] Letter of P.M.G., dated April 18, 1883, to the Lancashire & Cheshire Telephone Company.

[4] Hansard, speech of Mr. Gray, May 22, 1884. [5] *Ibid.* [6] *Ibid.*

not answer immediately, the person calling him up must pay a double rate.[1] Still another example of the restrictions imposed upon the companies was the notification of certain clubs in Manchester which were supplied with the telegraph service at press rates that the service would be withdrawn unless all telephones were removed from the club-house. This was ostensibly on the ground that the telephones were used to redistribute racing news,[2] but under the circumstances the argument seemed specious.

These increasing restrictions had, by 1884, brought the telephone industry almost to a standstill. Strong opposition to the course of the Postmaster-General showed itself in Parliament. Replying to the criticisms directed against him, Fawcett said he would not discuss the expediency of the acquisition of the telegraphs at the enormous expense of £10,000,000, but he was trustee for the public, and was bound to see that their large investment was properly safeguarded.[3] "The officials of the Post-office," said Fawcett, in reply to a question in the House of Commons, "had no motive except the interest of the department, which, in their view, was the interest of the public." Evidently, he had in mind the fiscal difficulties, which were such as really to cause anxiety. The net revenue of the telegraph service, which for the fiscal year ending March 31, 1882, had declined to £213,892, showed in the following year a further decline to £184,193.[4] In the year ending March 31, 1884, there appeared an insuperable deficit of £19,697.[5] Even before this the Postmaster-General had become thoroughly alarmed, as his conduct towards the telephone companies plainly showed. He now saw that obstruction of the telephone industry alone would never preserve his surplus. He must do something to stimulate the

[1] Hansard, speech of Mr. Gray, May 22, 1884. [2] *Ibid.* [3] *Ibid.*
[4] P.M.G. Report, 1883. [5] *Ibid.*, 1884.

telegraph business. Accordingly, he announced that as soon as possible the minimum rate on telegrams would be reduced from one shilling to sixpence.[1] But the public would not wait. It demanded that a more liberal policy toward the telephone industry should be adopted at once. In response to the popular pressure the Postmaster-General at last announced a radically new plan, that of free and universal competition.[2]

II.

The inauguration of free and universal competition consisted in calling in all the licenses hitherto granted by the Postmaster-General and reissuing them without the restriction to local areas. Henceforth all licensees could operate exchanges anywhere in the United Kingdom.[3] This change of policy removed the vexatious hindrances upon the service of subscribers outside the local areas, and enabled the companies to construct their own trunk lines. The duration of the licenses, conditions of purchase by the State, and amount of royalties remained as before. A new provision was inserted in relation to way-leaves; that is, the right to run lines over property, public or private. Where the Post-office had acquired exclusive way-leaves for their telegraphs on railways and canals, the companies were to pay twenty shillings per mile each year for the right to share in the user.[4] This was a very useful altho costly privilege to those companies that desired to construct trunk lines. Except for this provision the companies stood where they were before in the matter of way-leaves.

This matter was one that was destined to give the

[1] P.M.G. Report, 1883, 1884. [2] *Ibid.*, 1884.
[3] *Ibid.*, 1885; Hansard, August 7, 1884.
[4] Sel. Com., 1892, testimony of Mr. Lamb.

companies much trouble. As licensees of the Postmaster-General, they did not share his statutory powers. Hence they could secure way-leaves for the construction of their lines only by costly and wearisome higgling with the local officials and citizens over whose property they wished to pass. The Postmaster-General was in a somewhat better position. By the Telegraph Act of 1878, if owners, lessees, or occupiers of buildings in towns, or owners, lessees, or occupiers of estates in the country, or road authorities anywhere, refused their consent to the erection of poles and wires on their property, or granted it only on onerous terms, he might appeal to a police magistrate or county judge, who was empowered to give his consent in lieu of that of the recalcitrant local authority or citizen. From his decision an appeal lay to the Board of Railway Commissioners. The same procedure was provided, under like conditions, when the Postmaster-General wished to put wires under the streets or fly them over the streets in cities, or to put a pole within thirty feet of a dwelling-house. The lack of these powers was the one great grievance of the telephone companies after the issuance of the amended licenses in 1884. They secured a recommendation from a select committee of Parliament in the next session that legislation be enacted conferring more powers in the matter of way-leaves, but nothing came of it.[1]

The Postmaster-General certainly intended to do no more at present for the telephone industry. In 1885 he was compelled to face a larger deficit in his telegraph accounts than ever before. He then reported twenty-seven Post-office telephone exchanges in operation in various provincial towns, with a total of 1,141 subscribers. But by far the greater part of the telephone business was in the hands of the companies.[2] "The full effect of the telephone

[1] Sel. Com. 1885. [2] P.M.G. Report, 1885.

competition with the telegraph," he said, "remains to be seen; but I cannot doubt that the telegraph revenue has been, and will be, adversely affected." Meanwhile he was preparing to execute his long-contemplated reduction of the minimum rate on telegrams. October 1, 1885, the new rates went into effect.[1] During the fiscal year ending March 31, 1885, the number of telegrams had been 33,000,000,—an increase of about half a million over the number transmitted during the preceding year. In the first complete fiscal year after the introduction of six penny telegrams the number transmitted was 50,000,000.[2] The average annual increase in the number of telegrams transmitted during the period of the shilling rate was 15 per cent.; the year after the reduction, it jumped to 65 per cent.[3] The change thus unquestionably stimulated the use of the telegraph, but not enough to increase the gross or net revenue. The deficit continued.[4] In 1886 it amounted to £39,607, and in the next year was still greater.[5]

The failure of the telegraphs to make a better showing, after the reduction of the minimum rate, was a bitter disappointment to the Postmaster-General, and seriously impaired the policy of free and universal competition. It had been hoped that the reduced rates would turn the scale,[6] and, accordingly, the postal authorities had given little attention to the extension of their telephone system. In 1888 the number of subscribers had increased but little,—from 1,141 in 1885 only to 1,370,—altho in the meantime, three new exchanges had been established.[7] Free and universal competition thus was practically limited to the private companies alone. But, as we have seen, the fundamental patents were controlled by one com-

[1] P.M.G. Report, 1886. [2] *Ibid.*, 1887. [3] *Economist*, July 30, 1887.
[4] P.M.G. Report, 1886, *et seq.* [5] *Ibid.*, 1887.
[6] *Economist*, January 29, 1887. [7] P.M.G. Report, 1888.

pany, the United Telephone Company. By organizing subsidiary companies to operate these patents and apportioning the field among these companies, it was able to control their policy and effectually prevent any genuine competition. Of course there were licenses in the possession of independent organizations, but they could get no telephones without accepting the terms of the United. The latter company confined its operations to the metropolis, and received rentals from its subsidiary companies. The Bell and Edison patents would expire, however, in December, 1890, and July, 1891, respectively.[1] Then genuine and lively competition might be expected. In anticipation of such an event the telephone magnates determined to amalgamate the several operating companies into one large corporation, which would be more capable of dealing with the situation.

For some months the shares of the amalgamating companies fluctuated, as the rumors of the coming merger were confirmed or denied. The *Economist*, commenting on the evident confidence of the shareholders that a merger would strengthen their position in dealing with the government,[2] warned them that "the mistake which has been made in giving too high a price for the telegraph systems is not likely to be repeated when the telephone companies come to be dealt with." But the shareholders had confidence in their officials. Fawcett's Conservative successor was forced to watch the consummation of the scheme, which he was powerless to prevent. Since he refused to sanction the amalgamation by the issuance of a new license to its promoters, the necessity of obtaining his consent was avoided by the expedient of having one of the companies buy up the others.[3] It thus retained its

[1] Sel. Com., 1895, testimony of Mr. J. S. Forbes, Chairman of the National Telephone Company.

[2] *Economist*, May 12, 1888.

[3] Sel. Com., 1895, testimony of Mr. Forbes.

existing license available for working over the whole country. The shares of the National Telephone Company, one of the leading operating companies, at par value of £5, were exchanged at the rate of £12 10*s*. for each share of United Telephone Company stock, and at the rate of £1 6*s*. 3*d*. for each share of the Lancashire & Cheshire, the other leading operating company.[1] Thus the National Telephone Company became the British telephone "trust." [2]

This result of the policy of free and universal competition presented difficult problems to the Postmaster-General, Mr. Raikes. His uneasiness was shown in the establishment of six additional Post-office telephone exchanges in the next two years,[3]— a greater number than had been constructed in a like period since 1883, the year before the unlucky policy had been adopted. At the same time he was strongly urged, both in Parliament and in the press, to serve notice on the "trust" that he should buy it out in 1890, according to the terms of the licenses.[4] He contented himself, however, with announcing that he would await the expiration of the patents and then try a new policy.[5] He still clung to his belief in competition. The most intelligent contemporary opinion about the consolidation is reflected in the columns of the *Economist*. That paper expressed confidence in the Postmaster-General,[6] but perceived the full consequence of the situation. "The less hope the new company has," it said,[7] "of being able to realize solid value for the 50 per cent. of water it has introduced into its stock, the more necessary will it be for it to take

[1] *Economist*, May 25, 1889.

[2] Consolidation was carried out May 1, 1889. *Cf.* Sel. Com., 1895, testimony of Mr. Forbes.

[3] Parliamentary Papers, 1890, lxxviii. Special report on telephones.

[4] Sel. Com., 1895, testimony of several witnesses. [5] *Ibid.*

[6] *Economist*, April 13, May 25, 1889. [7] *Ibid.*, June 8, 1889.

steps to write down its capital account out of revenue; and this, of course, will entail the charging of higher rates than if the company had only to earn fair dividends on its real capital. . . . It is sufficiently obvious that the telephone amalgamation is directly hostile to the public interests."

The conduct of the National Telephone Company after the amalgamation was not calculated to dispel the fears of the *Economist*. It had previously absorbed two of the smaller companies operating under licenses issued in 1884.[1] It now proceeded to buy up as many as possible of the rest. Within the next three years it secured ten out of the fourteen outstanding licenses, at the cost of a considerable addition to its watered capital.[2] This so strengthened its monopoly that the company felt able to meet the threatened competition at the expiration of the patents.[3] On May 1, 1890, the rates were reduced in Liverpool and Manchester,[4] where competition was most imminent. The experiment proved satisfactory to the officials of the company, and on January 1, 1891, a general reduction was made on all exchanges of the company except in London.[5]

In July the Edison patent expired (the Bell patent having terminated in the preceding January), which gave the Postmaster-General his opportunity to attack the obnoxious monopoly. Mr. Raikes found the problem a hard one to solve, however, and, despite the public clamor against the "trust," could decide on no immediate course of action.[6] Not long afterwards he died. Competition seemed further away than ever, and the service was execrable.[7] In April, 1891, a public meeting was held in London, and a committee formed for the protection

[1] Sel. Com., 1895, testimony of Mr. Forbes.
[2] *Ibid.*
[3] *Economist*, July 12, 1890.
[4] Sel. Com., 1895, testimony of Mr. Forbes.
[5] *Ibid.*
[6] *Ibid.*, 1892, testimony of Mr. Lamb.
[7] *Ibid.*

of telephone subscribers.[1] Every effort to induce the directors of the National Telephone Company to reduce the rates in London or improve the service was, however, futile. On February 22, 1892, the London Chamber of Commerce formally complained to the government.[2] Public disatisfaction with the monopoly became so great that Mr. Ferguson, who had succeeded Mr. Raikes, was obliged to reopen the whole subject.[3] It was now too late to buy in the system of the National Telephone, except at an enormous sacrifice. The favorable opportunity for that step had been allowed to pass in 1890. Yet the government could not view with equanimity the continued existence of an unregulated monopoly.

The inefficiency of the National Telephone Company's system was frankly acknowledged by its officials. "I am prepared to concede," said its chairman,[4] "that the telephone company, which conducts 93 per cent. or 94 per cent. of the whole telephone business of the country, conducts a great deal of it monstrously badly." At that time the telephone lines of the company throughout England consisted each of one wire, which, after passing through the instrument at either end, connected with the ground.[5] Thus the ground served the purpose of a return circuit. When a number of these single wires were strung together upon poles for any considerable distance, conversation taking place over one wire could be plainly heard over the neighboring wires as well. This induction, as it is called, occurred even if the wires were insulated in the highest degree known to the art. Moreover, the operation of electric currents, such as street light circuits, in the neighborhood of the single wire telephone system, produced buzzing noises, which at times rendered con-

[1] *Economist*, April 18, 1891. [2] *Ibid.*, February 27, 1892.
[3] P.M.G. Report, 1892.
[4] Sel. Com., 1892, testimony of Mr. Forbes. [5] *Ibid.*

versation well-nigh impossible. It had been discovered in the United States that these difficulties could not be overcome without the use of a second wire, instead of the earth, to complete the circuit. The introduction of the twin-wire or metallic circuit system meant not only the reconstruction of the entire plant, both overhead and underground, but also the replacement of all the central office switchboards with apparatus designed to meet the new conditions. Although the change had been begun in New York City in 1887,[1] London was still struggling along with the grounded circuits. This was the chief cause of the wretched condition of the telephone system in that city.[2]

Telephone users were all the more aggravated by the fact that the "trust" was making very large profits. The dividends upon shares of National Telephone Company stock since the amalgamation had been 6 per cent., which was equivalent to 15 per cent. to original holders of stock in the United Telephone Company.[3] To crown all, the rates in London were very high.[4] The company tried to justify its charges on the plea that it had to pay 10 per cent. of its gross receipts as royalty, besides taxes and cost of way-leaves. The real secret of the high charges, according to the *Economist*,[5] was that it had to pay dividends on capital that had been watered to the extent of over 50 per cent.

The company admitted the necessity of installing metallic circuits in order to improve the service in large cities, but asserted that it could not do anything without statutory powers to secure way-leaves. So long as it was wholly dependent upon the voluntary consent of local

[1] United States Bureau of the Census, Special Report on Telephones and Telegraphs, published 1906, p. 53.

[2] Sel. Com., 1892, testimony of Mr. Lamb.

[3] *Economist*, February 27, 1892. [4] *Ibid.* [5] *Ibid.*

authorities and subject to the caprice of each individual property owner, no progress could be made.[1] On the other hand, the municipal authorities insisted upon the right to make conditions upon the granting of their consents without appeal to any third party. The problem that faced the Cabinet was to reconcile these antagonistic interests, in order that the public might have the benefit of an improved telephone service, and at the same time to protect its own interest, the public revenue from the telegraphs. The solution of this problem was presented in a Treasury Minute, dated May 23, 1892. Herein the Lords of the Treasury proposed definitely to abandon the plan of free and universal competition, and adopt in its stead a plan of governmental co-operation with private enterprise.[2]

III.

The new proposal was, in brief, that the telephone companies should surrender the right to construct trunk lines and confine their future operations to local areas to be designated by the Postmaster-General. In return for these concessions the way-leave powers of the Postmaster-General, under the Acts of 1863 and 1878, would be conferred upon the companies, subject, as a condition of the license, to the approval of the local authorities in each area in which the licensee should desire to operate exchanges. If, after approving an application, the local authorities should impose onerous conditions to their consent to the construction of telephone lines by licensees of the Postmaster-General, the latter might request the withdrawal of the conditions. In case of a refusal the difference between the local authorities and the Postmaster-General should be settled according to the method

[1] Sel. Com., 1892, testimony of Mr. Forbes.

[2] Treasury Minute, May 23, 1892.

provided in the Telegraph Act of 1878.[1] Existing trunk lines would be purchased by the State. No more licenses would be granted for the whole country, but the Postmaster-General reserved the right to license any number of exchanges in the same area or to compete himself. However, no license would be granted to a new company unless there was evidence of sufficient capital to carry out the undertaking (to prevent the issuing of licenses to schemers whose purpose was to sell out to the "trust" at a handsome profit,—a trick that had been successfully executed with several of Mr. Fawcett's licenses), nor should any new company be licensed without a guarantee that it would construct its system entirely of twin wires. The royalties and other provisions of the existing licenses were to remain unchanged.

The great merit of this plan, from the standpoint of the government, lay in the fact that a company was already organized which stood ready to accept its terms and engage in vigorous competition with the National Telephone Company. Unconvinced by the experience of the eight years that had elapsed since Fawcett made his momentous change of policy, the ministers still put their trust in competition. They believed that, since the patents had expired, competitors would at last be able to make head against the monopoly and compel it to provide a more efficient service. If the government owned the trunk lines and converted them into metallic circuits, the obsolete single wire system of the National Telephone Company would be nearly useless in connection with them. If a rival company should then install exchanges with twin-wire subscribers' lines in the local areas to compete with the National, the latter would be compelled to do likewise or go to the wall. The ministers were confident that the National would surrender its

[1] See *ante*, p. 107

trunk lines; for, if it did not, it could not get the statutory way-leave powers which were essential to the improvement of its service. Without these powers it could not long maintain its existing exchanges, since the local authorities and citizens, upon whose sufferance its present way-leaves rested, would be only too glad to transfer their consents to a company that promised an improved service at lower rates.[1]

This new rival of the "trust," invoked to save the telephone situation, was the New Telephone Company. It was organized in 1884, to take over the patents of Sylvanus P. Thompson, who thought he had succeeded in evading the Bell and Edison patents.[2] The Thompson patents, however, proved worthless,[3] and the company did nothing with its license until the expiration of the Bell and Edison patents. Then, in November, 1891, its capital stock was increased from £120,000 to £750,000,[4] and it was announced that the company intended to introduce the metallic circuit into London and compete with the National.

One of the leaders in the movement to inaugurate competition with the National was the Duke of Marlborough. He had been laying his plans for a couple of years,[5] but found investors reluctant to risk their capital in the enterprise unless the company could obtain statutory powers in the matter of way-leaves.[6] Upon the adoption of the proposal laid down in the Treasury Minute, he expected to begin work at once, and ultimately to provide efficient telephone service at about half the rates of the National.[7] In April he was so confident of success that

[1] Sel. Com., 1892, testimony of Mr. Lamb. [2] *Ibid.*, Appendix 8.

[3] *Ibid.*, testimony of Mr. Wallace, a director of the New Telephone Company.

[4] *Ibid.*, Appendix 8.

[5] *Ibid.*, 1895, testimony of Mr. Benn, a telephone expert and member of Parliament.

[6] *Ibid.*, 1892, testimony of Mr. Forbes. [7] *Ibid.*, testimony of Mr. Wallace.

he made an agreement with the Association for the Protection of Telephone Subscribers, defining the terms upon which he would operate his prospective system.[1] He guaranteed to serve his subscribers for £12 10*s*. per annum instead of £20, the rate of the National, for the use of a telephone. In the previous month the new company absorbed the Pioneer Telephone Company of London and the Mutual Telephone Company of Manchester, and thus acquired the only licenses in England not in the possession of the "trust."[2] The first-mentioned was a company organized in February, 1892, on an old license which had never been used, for the purpose of raising capital for use in carrying out the Duke of Marlborough's plans.[3] The latter was a true Mutual enterprise, started in 1890 to compete with the National's system in Manchester. It introduced metallic circuits, cut rates below those of the National, and, in less than two years gained as many subscribers as the National had in a dozen years.[4]

If this was the result of competition in a local area by a puny rival, without access to trunk lines, what might not the National expect from vigorous competition in all the local areas of the kingdom by the Duke of Marlborough's big company, when on an equality with the National in regard to trunk lines? Naturally, the officials of the National protested at the proposals contained in the Treasury Minute, complaining that their company would not receive a sufficient recompense for the surrender of its trunk lines.[5] The government, however, was so confident of the strength of its position that it disregarded the company's protests, and went ahead with its scheme.[6] A bill was engineered through Parliament, giving to the proposals the force of law, and appropriating

[1] Sel. Com., 1892, agreement printed in the Appendix.
[2] *Ibid.*, testimony of Mr. Wallace.
[3] *Ibid.*
[4] *Ibid.*, testimony of Mr. Lamb.
[5] *Ibid.*, testimony of Mr. Forbes.
[6] *Ibid.*, report.

£1,000,000 for the purchase and extension of the trunk lines.[1] The government's confidence appeared to be justified, when on August 11 the chairmen of the National and New Telephone Companies respectively signed heads of arrangement with the Postmaster-General to carry out the new policy of public partnership with private enterprise.[2]

What was the cause of this sudden alacrity on the part of the National to accept the terms, of the harshness of which it had so recently complained? Simply that in the mean time the rival companies had come to an understanding with one another, and decided to co-operate instead of competing. The prospectus of the New Telephone Company, which appeared July 27, 1892, tells the story.[3] It showed that a contract, the terms of which were not given to the public, was made with the National Telephone Company on July 14, only sixteen days after the passage of the act which was to inaugurate competition between them, and that one-half of the Board of Directors of the New company was taken from the directorate of the National. The conclusion was obvious. The New Telephone Company never would operate an exchange or construct a line in competition with the National, and it never did.[4] At that time the National subscribed to a third of the capital stock of the New company, and before the end of the year it gained complete control of its quondam rival,[5] at the cost of a large infusion of water into its already well-watered capital.[6]

The failure of this attempt to inaugurate competition in the telephone industry was a bitter disappointment to the Postmaster-General and to those who believed

[1] Enacted June 28. Cited as the Telegraphs Act, 1892.
[2] Parliamentary Papers, 1892; P.M.G. Report, 1893.
[3] Sel. Com., 1895, Appendix. [4] *Ibid.*, testimony of Mr. Forbes. [5] *Ibid.*
[6] *Economist*, December 17, 1892.

in the universal application of the competitive principle.[1] The Duke of Marlborough, in a series of public letters,[2] defended the course of his company in merging with the monopoly; but the sudden collapse of his plans was a heavy blow, and undoubtedly hastened his death, which occurred that autumn.[3]

During all the next year the Post-office department conducted negotiations for the transfer of the trunk lines to the State,[4] but it was not until two years had passed after the heads of arrangement were signed that an agreement was completed.[5] The National Telephone Company agreed to sell all its trunk lines at cost price, as shown by its books (the sum to be settled in case of disagreement by arbitration), plus 10 per cent. for the expenses of administration, and to limit its operations to exchange areas as defined by the Postmaster-General. It was to be permitted to run wires to subscribers outside the limits of the local areas, but not to establish exchanges outside those limits. The company was to connect its exchanges with post-offices as specified by the Postmaster-General for the termination of trunk lines. The Postmaster-General, in return, conferred on the company all the powers authorized by the Act of 1892. In addition, he agreed to construct underground conduits connecting exchanges in the streets of municipalities where the company could not obtain way-leaves, and to reduce the fee from 20*s.* to 1*s.* whenever he allowed the company to run lines on any railway or canal on which he possessed exclusive way-leaves. Thus was established the novel partnership between the department and the company.

[1] *Economist*, August 27, 1892.

[2] London *Times*, August 20; September 6, 1892.

[3] Sel. Com., 1895, testimony of Mr. Forbes. [4] P.M.G. Report, 1893.

[5] Parliamentary Papers, 1894, lxx. 387. The agreement was signed August 7, 1894.

The department had already begun the construction of trunk lines,[1] and by 1895 had expended £355,000 of the sum appropriated in 1892.[2] In the following year the transfer of the company's trunk lines was carried out under the terms of the agreement. The department acquired 2,651 miles of trunk lines, containing 29,000 miles of wire at a price, fixed by experts, of over £475,000.[3] In this year an Act of Parliament sanctioned an expenditure of £300,000 on the trunk lines in addition to the £1,000,000 authorized under the Telegraph Act, 1892.[4]

About the same time that the impossibility of forcing private enterprise to compete in the telephone industry was at last reluctantly recognized by the Post-office authorities, it was also seen that the attempt to compete by means of an improved and cheapened telegraph service had only resulted in failure. The deficits which had begun under Fawcett had continued ever since.[5] The reduction of the minimum rate of charge did not, as we have seen, diminish the loss. In 1890 it had become impossible to defer longer the increase of pay demanded by the employees of the department, and in spite of the unsound state of the telegraph finances the increase was granted.[6] The press service was, and always had been, conducted at a loss, and no change could be made without alienating the support of an influential interest.[7] The privilege of sending telegrams free of charge, which had been granted to the railroads by the terms of sale of the telegraphs in 1869, caused an annual loss to the department.[8] Finally, the telephone was taking away from the telegraph the most lucrative part of its business, that

[1] P.M.G. Report, 1893. [2] *Ibid.*, 1895.

[3] *Ibid.*, 1896. The exact price was £459,114 3*s.* 7*d.* + £18,164 13*s.*

[4] 59 & 60 Vict. c. 40.

[5] P.M.G. Report, 1895, Appendix. [6] *Ibid.* [7] *Ibid.* [8] *Ibid.*

between large neighboring cities.[1] For instance, the number of telegrams passing between Liverpool and Manchester actually diminished during the early nineties. Indeed, the tendency of the terms of partnership between the telephone company and the Post-office was to confine the operations of the company to the more profitable local areas, leaving the department to extend the telegraph service to the remote and unprofitable districts,[2]—a task which it performed with a persistency that redounded more to its honor than to its profit. In 1894 the deficit in the telegraph accounts amounted to £178,000, which was partly offset by royalties from the telephone company amounting to £70,900.[3]

Despite the unsatisfactory financial condition of the telegraph system, the service was excellent. The rates were low. The lines extended to all parts of the kingdom.[4] No country in Europe possessed so good a telegraph service as England, or made so great a use of that means of communication.[5] In regard to the development of the telephone industry, on the contrary, Great Britain was behind the more progressive countries of Europe, and far behind the United States.[6] In 1895 there were only 9,000 telephone subscribers in London out of a population of four and a quarter million. In Christiania, Sweden, at the same date there were 3,300 subscribers out of a population of only 152,000.[7] The rates in Christiania were about one-third of the rates in London. The comparison, to be sure, proves nothing, but suggests a great deal. At any rate, the public was dissatisfied with the

[1] P.M.G. Report, 1895, Appendix.

[2] *Ibid.* Cf. *Economist*, June 4, 1892.

[3] Sel. Com., 1895, testimony of Mr. Lamb.

[4] P.M.G. Report, 1895, Appendix.

[5] Sel. Com., 1895, testimony of Mr. Forbes.

[6] *Ibid.*, testimony of Mr. Lamb. *Cf.* also Sel. Com., 1898, Appendix 5; also *Economist*, March 9, 1895.

[7] *Ibid.*, testimony of Mr. Lamb.

existing conditions. Since the policy of local competition by private enterprise had failed, the public was too impatient to wait for the uncertain results of the surviving part of the plan of 1892,—public partnership with the monopoly. It began to clamor for a new solution of the problem. Such a solution was proffered by the advocates of municipal competition.

IV.

The prime instigator of the movement for municipal competition was the city of Glasgow. In that stronghold of municipal ownership the water, gas, electric light, and street railway undertakings were already in the hands of the Town Council. The telephone company was the sole private corporation possessing rights over the city streets. For this reason, as well as because there was great dissatisfaction in Glasgow with the service of the company, the Town Council applied as early as 1893 for a license, under the terms of the Treasury Minute of 1892, to establish a competing service.[1] In 1895 the Postmaster-General had yet not granted this application.[2]

At the same time the Town Council adopted a policy intended to discourage the company from maintaining its system in the city. Under the terms of the act by which the Council had recently acquired the power to construct and operate tramways, the telephone company was given two years in which to install metallic circuits on its Glasgow system under penalty of forfeiting all claims for damages that might result from the municipalization and electric equipment of the tramways.[3] The

[1] Sel. Com., 1895, testimony of Mr. Colquhoun and Mr. Chisholm, Town Councillors of Glasgow. Application was made April 6, 1893.

[2] *Ibid.*, testimony of Mr. Preece, chief electrician to the Post-office.

[3] *Ibid.*, testimony of Mr. Colquhoun and Mr. Chisholm.

Council refused, however, to grant the company leave to dig up the streets in order to install the metallic circuits in underground conduits.[1] Yet it had already decided to equip its tramways with overhead trolley wires, the induction from which would cripple the National's single wire telephone service. The telephone company, which understood the attitude of the Council, fought this tramway act bitterly, but was defeated.[2] This defeat prevented the company from improving its service, which of course was what the Town Council wished, since it strengthened their case for municipal competition.

The Council asserted in support of its application for a license that the municipalities were better fitted than a company to operate telephone systems within their limits,[3]—an assertion for which in the case of Glasgow there was certainly much foundation. Moreover, if competing municipal exchanges were authorized, the Post-office would have a choice of two systems in each municipality when the licenses of the National should expire in 1911. It would not then be obliged to buy out the National at its own price or renew its license against the will of the government of the day, solely in order to insure that the public might not be deprived of all telephone service whatsoever.[4] Finally, the Council asserted that nothing less than municipal competition would compel the "trust" to maintain a satisfactory standard of efficiency at reasonable rates.[5] In 1897 action upon the application for a license could no longer be delayed. The Treasury sent a Commissioner to Glasgow to hold an inquiry, and report on the expediency of granting a license to the Town Council to compete with the telephone monopoly.

[1] Sel. Com., 1895, testimony of Mr. Colquhoun and Mr. Chisholm.

[2] *Ibid.*, testimony of Mr. Forbes.

[3] *Ibid.*, testimony of Mr. Colquhoun and Mr. Chisholm. [4] *Ibid.* [5] *Ibid.*

This Treasury Commissioner, after a careful investigation, rendered a report adverse on the merits of the question to the policy of municipal competition.[1] There were then 5,036 subscribers to the National's telephone system in Glasgow. All lines were constructed with grounded circuits. The service was not efficient, but the rates were reasonable. The continued inefficiency of the service was caused, in the Commissioner's opinion, by the Corporation's refusal to grant the necessary facilities to the company to substitute metallic for grounded circuits.[2] The reason which the Corporation gave for its refusal to grant the necessary facilities—namely, that it wished to retain complete control of its streets—"is not reasonable or justifiable, on grounds of policy or otherwise, unless it be thought that the Corporation are justified in their refusal, because they desire to establish a telephone system of their own, and to place the National Telephone Company at an enormous disadvantage in competing with them for the patronage of the public."[3]

The Commissioner thought it was inexpedient to grant a license to Glasgow because telephone competition diminished the utility of the service to subscribers, who must either join both systems or be shut off from communication with subscribers to the other system. Moreover, if two systems existed in the same area, the acquisition of the telephone by the State in 1911 would be more expensive, since discrimination between the two would be unjust, nor would it be fair to grant a license to the Corporation without requiring it to give the company equal way-leave powers. He thought the Corporation had not shown satisfactorily that they could finance and operate the proposed system without undue risk of

[1] Report of a Commission of Inquiry into the Telephone Exchange Service in Glasgow to the Lords Commissioners of Her Majesty's Treasury, 1897, by Andrew Jameson, Sheriff of Perthshire, hereafter to be cited as Glasgow Report, 1897.

[2] *Ibid.* [3] *Ibid.*

putting a new and serious burden on the rate-payers of Glasgow.[1] He advocated the adoption of the policy successfully tried by Liverpool and other large English boroughs (where there was no demand for municipalization of the telephone).[2] These boroughs came to an agreement with the National, whereby the latter promised to install underground metallic circuits on receipt of adequate way-leave powers from the Borough Councils.[3] Since the Glasgow authorities would not listen to this advice, he preferred the establishment of a competing system by the Post-office, on account of the advantages of centralized control, rather than intrust the undertaking to the local authorities.[4] If the Post-office, however, was unready to undertake vigorous competition, he recommended that as a last resort the license be granted.[5]

This report was rendered November 29, 1897. Shortly after the situation in London again came up for discussion. March 17, 1898, at a conference of delegates representing the Corporation of London and the Vestries and District Boards of the Metropolis, it was unanimously voted that the London telephone service was inadequate, inefficient, and costly. Mr. Forbes, the head of the National company, wrote a letter to the conference, stating his side of the case. There were on December 31, 1897, 17,371 subscribers in London, paying an average subscription of £14 10*s.* 6*d.* This worked out to a charge of about 1*d.* per conversation averaging 200 words. The minimum charge for telegrams was 6*d.* for a message of 15 words. He admitted that the service was inefficient, but this was caused by the refusal of

[1] Glasgow Report, 1897.

[2] Sel. Com., 1895, testimony of Mr. Clare, representative of the Association of Municipal Corporations.

[3] Glasgow Report, 1897. [4] *Ibid.* [5] *Ibid.*

London to grant such facilities for putting wires underground as had been granted by Liverpool, Manchester, Birmingham, and Leeds.[1] The *Economist*, commenting on the discontent with the service provided by the National Telephone Company, pointed out[2] that the company was paying dividends of 6 per cent. on its watered capital. It had also added £273,429 to its reserve fund in four years. In 1897 it could have paid 22½ per cent. on its original United Telephone Company shares[3] if it had cared to do so. The government decided to appoint another Select Committee to investigate the whole subject[4] before acting upon the Glasgow Report.

This committee did its work thoroughly, not only taking a huge mass of testimony itself, but reviewing that given before the Select Committee of 1895 and the Treasury Commissioner at Glasgow in 1897. It reported that the telephone was not of general benefit to the community, nor was it likely to be while the monopoly continued its present policy. The system of high flat rates for an unlimited service and the lack of adequate public pay stations prevented the popularization of the telephone, and restricted its use to the wealthy classes. The necessity for the company to recoup itself for its capital expenditure before the expiration of its license in 1911 (which would render its plant worthless if the government chose not to purchase it) prevented the reduction of rates to a reasonable level. A more efficient service was unlikely on account of the precarious tenure of the company's way-leaves and the difficulty of obtaining adequate facilities from the local authorities.

Nevertheless, the density of population and general diffusion of wealth made England an exceptionally promising field for the expansion of the telephone industry.

[1] *Cf.* Glasgow Report, 1897, Appendices 26–55.
[2] *Economist*, April 2, 1898. [3] *Ibid.* [4] Sel. Com., 1898, Report.

Competition alone, the committee reported, could ameliorate the situation. Yet, if there was to be competition between the municipalities and the company, it must be started on a fair basis. Under the existing conditions each possessed peculiar advantages. The company could give preferential rates,—a power which, when exercised in Plymouth in 1884, completely destroyed a competing exchange established there by the Post-office.[1] The company could refuse service altogether in order to force the concession of way-leaves from property owners and occupiers. It could make its prosperous exchanges pay the cost of competition in areas where municipal exchanges might be established. The municipalities, on the other hand, could give to themselves and refuse to their rival permission to lay underground conduits in the public streets. The government was variously urged to untie the tangle by inaugurating vigorous competition on its own account[2] or by buying the company's system at the market valuation and operating the telephone as a branch of the telegraph monopoly.[3] It decided, however, to authorize municipal competition.[4]

A Treasury Minute,[5] supplemented by an Act of Parliament,[6] defined the new policy. The municipal authorities were empowered to construct exchanges and supply telephones in competition with the National Telephone Company on condition that they grant to the company equivalent way-leave powers over the city streets. They might take out licenses for not more than twenty-five years, but in case the term extended beyond the year 1911 the license of the company for the corresponding

[1] Sel. Com., 1898, testimony of representative of Post-office.

[2] *Ibid.*, Report.

[3] *Fortnightly Review*, "The Telephone Tangle and the Way to Untie it," by Mr. A. H. Hastie, December, 1898.

[4] House Resolution, March 9, 1899. [5] May 8, 1899. [6] August 9, 1899.

area would be extended for an equal period. Otherwise, provision was made for the purchase in 1911 of all portions of the plants of both the municipal authorities and the company that came up to the standard of efficiency prescribed by the Postmaster-General. Rival systems in the same area, under certain conditions, would be required to arrange for intercommunication between subscribers to one another's system. Carefully drawn sections of the Treasury Minute regulated toll charges and terminal fees where intercommunication between different systems was concerned, forbade discrimination in rates, and provided for the arbitration of the value of the plant taken over in 1911. Municipalities were required to pay the same royalty that the company was paying. Finally, the act appropriated £2,000,000 for the use of the Postmaster-General in extending the trunk lines and constructing local exchanges.

Both the city of Glasgow and the Postmaster-General proceeded without delay to act according to the spirit of the new policy. Glasgow received its license March 1, 1900,[1] and immediately began the construction of a municipal telephone system. Upon its completion cut-throat competition with the company was vigorously prosecuted. Meanwhile the Postmaster-General turned his attention to London. Exchanges were constructed, and on February 24, 1902, the Post-office system was opened for business.[2] The previous attempts of the Post-office to establish competing exchanges had not been successful. On December 31, 1898, the total number of subscribers to the Post-office exchanges was 1,213[3] as compared with 1,370 just ten years earlier.[4] Of these 1,213, 45 had given notice of their intention to leave.[5]

[1] P.M.G. Report, 1900. [2] *Ibid.*, 1902.
[3] Parliamentary Papers, 1899, lxxvii.
[4] See *ante*, p. 108; P.M.G. Report, 1888.
[5] Parliamentary Papers, 1899.

The total number of exchanges established by the Post-office was 49. Of these, 35 had failed to hold their own in the struggle with the National for existence, 7 being altogether without subscribers.[1] The failure of the Post-office exchanges to make a better showing was ascribed to the refusal of the Treasury to grant the department adequate means for pushing its undertakings.[2] For example, no appropriation was granted to enable the department to send out canvassers, as the National did at competitive points, in order to drum up business.[3] That the Post-office could conduct the telephone business successfully was shown by the condition of the trunk lines acquired in 1896. Two years later they were the most extensive in Europe,[4] although the local exchanges which had remained in the hands of the company were notoriously inefficient. The Post-office was now to have a fair chance to operate a local exchange.

In London the Postmaster-General decided, however, to co-operate instead of competing with the National Telephone Company. This policy disgusted ardent advocates of competition, who had expected to see the company crowded to the wall,[5] but seems justified by the event. An agreement was made providing for intercommunication between the two systems, joint rates, and purchase of the company's plant in 1911 on the so-called "tramway terms." The government will buy all the plant that conforms to the standard of efficiency prescribed by the Postmaster-General at a price equal to its value *in situ*, to be determined in case of disagreement by arbitration, but with no payment for good

[1] Parliamentary Papers, 1899.

[2] Sel. Com., 1895, testimony of Mr. Lamb.

[3] *Ibid.*, testimony of Mr. Preece.

[4] *Ibid.*, 1898, Report.

[5] *Economist*, November 30, 1901. *Cf.* also Hansard, speech of Mr. Kearley in the House of Commons, May 22, 1905.

will.[1] This agreement insures as good service as the government itself provides, at reasonable rates, during the interval until the whole telephone system can be brought under the direct control of the State. In other parts of England the Post-office is gradually establishing local exchanges in connection with extensions of the trunk lines into places where the National has not entered.[2]

The development of municipal exchanges, however, has been a disappointment to those who looked upon that expedient as the final solution of the telephone tangle in Great Britain. Out of the 1,334 municipalities which were entitled under the Act of 1899 to take out licenses for the establishment of municipal exchanges, only 13 have availed themselves of the privilege,[3] and of these 13 only 6 have actually constructed exchanges.[4] One of these, Tunbridge Wells, after operating its plant for a year, sold out to the company, which guaranteed a reduction in rates as well as the reimbursement of the Corporation for all its capital sunk in the undertaking.[5] The remaining 5 municipalities were operating their exchanges in 1905.[6] In Glasgow, where competition was the keenest, the municipal exchange got ahead of its rival in its third year (1903).[7] Yet a deputation ultimately was sent to the Postmaster-General to beg his good offices in bringing about an understanding with the company.[8] "All the brave talk about competition seemed to have vanished into thin air."[9]

By the time that municipal competition was acknowl-

[1] P.M.G. Report, 1902. [2] *Ibid.*, *et seq.*

[3] Hansard, speech of Lord Stanley, Postmaster-General, in House of Commons, August 9, 1905.

[4] Municipal Year Book, 1904. [5] *Ibid.*

[6] Hazell's Annual, 1906. [7] Municipal Year Book, 1904.

[8] Hansard, speech of Lord Stanley, August 9, 1905.

[9] *Ibid.*, speech of Mr. Kearley, May 22, 1905.

edged a failure,[1] the position of the telegraph had become almost hopeless.[2] The net deficit on the operation of the State telegraphs (exclusive of the interest on the capital investment, amounting to £298,860) steadily increased to £651,881 in 1902.[3] During the fiscal year 1903–04 the number of inland telegrams in Great Britain actually decreased from 92,471,000 to 89,997,000.[4] The loss was accounted for, partly by trade depression and stock exchange quietness, but chiefly by the unprecedented telephone expansion. The income of the Post-office from royalties increased by 18.4 per cent., making a total from that source of £325,525.[5]

This gratifying increase in the telephone facilities of the kingdom was not allowed to give the public much cause for satisfaction. We have seen that the chairman of the National had warned the government in 1898 that, owing to the necessity for the company to recoup its expenditures before 1911, it would probably not extend its operations into new districts after 1904.[6] Upon being asked, "Do you mean to say that after 1904 you will refuse all new subscribers?" Mr. Forbes replied, "I think it is highly probable."[7] In February, 1904, at a meeting of shareholders of the company, Mr. Forbes's successor pointed out that each additional subscriber involved a capital outlay, and that the only alternative to incurring large expenditures was the deplorable policy of discouraging would-be subscribers. At that time more than 10,000 persons were waiting to join the company's system.[8] Still the government allowed the year to pass without exercising its privilege under the terms of the license of buying the system up.

[1] Hansard, speech of John Burns in House of Commons, August 9, 1905.
[2] P.M.G. Report, 1898. [3] *Ibid.*, 1903, Appendix R.
[4] *Archiv für Post und Telegraphie*, Berlin, January, 1905. [5] *Ibid.*
[6] Sel. Com., 1898, testimony of Mr. Forbes. [7] *Ibid.*
[8] *Economist*, March 26, 1904.

In 1905, however, it became necessary to make some new arrangement with the National, in order to keep up its service to a satisfactory standard of efficiency. Unless some assurance was given to the company of fair treatment in 1911, the government would have no control over its operations in the interval. Moreover, the government realized that nothing was to be expected of municipal competition.[1] The result was that in February the Postmaster-General made an agreement[2] with the company, extending over its entire system the terms of regulation and purchase which were laid down for the London area by the agreement of November 18, 1901.[3] This arrangement seems equitable both to the company and to the tax-payers.[4] The former will receive in 1911 the equivalent of its capital investment; the latter, a going concern at cost price. If the agreement were not made, the Post-office would be obliged in 1911 either to buy out the company at its own terms or to build in its stead a superfluous plant.[5]

In Parliament the agreement met with general favor as a final settlement of the telephone tangle. A Select Committee reported in its favor.[6] Even the advocates of municipal competition offered little objection, altho the Postmaster-General announced that he should grant no more licenses to municipalities.[7] John Burns went so far in his indorsement of the settlement as to suggest the immediate purchase of the municipal plants by the central government.[8] His chief anxiety was concerning the treatment of the employees of the National after

[1] Hansard, speech of Lord Stanley, August 9, 1905.

[2] Memorandum of the P.M.G., dated February 14, 1905, setting forth an agreement dated February 2, 1905, between the P.M.G. and the National Telephone Company.

[3] *See ante*, p. 129.

[4] *Economist*, February 18, 1905. [5] *Ibid.*, August 5, 1905. [6] *Ibid.*

[7] Hansard, debate in House of Commons on August 9, 1905.

[8] *Ibid.*, speech of John Burns, August 9, 1905.

the transfer of its system to the State. The Postmaster-General promised to take into the service of the Post-office all employees paid less than £700 per annum who should have been in the employ of the National Telephone Company for at least two years prior to December 31, 1911.[1] He also made liberal provision for pensioning employees on retirement, and assured them that they should not receive lower salaries from the Post-office than from the Company.[2] Mr. Burns then had not the least doubt that, "by bringing to an end the sad muddle of the last twelve years in telephone affairs, industry and commerce would be improved and 12,000 loyal and devoted servants added to the service of the State."[3]

At last the telephone problem was solved. Once more the Postmaster-General has full control of that branch of his telegraph monopoly. "No one who had followed the telephone development [of Great Britain] could escape the conviction that a great mistake was made when the telephones were first invented and the system was first introduced. Through many weary years their principal object had been to escape from the situation so created, and once again to secure for the Postmaster-General, and through him for the country, a free hand in the matter of telephone development in the United Kingdom."[4] One question still remained,—What was to be the disposition of the municipal exchanges which were licensed to be operated after 1911? This question now seems unlikely to cause difficulty. In July of the present year the Glasgow municipal telephone system was sold to the British Post-office.

[1] Hansard, Memorandum of P.M.G., read in House of Commons August 9, 1905.

[2] *Ibid.*, speech of Lord Stanley, August 9, 1905.

[3] *Ibid.*, speech of John Burns, August 9, 1905.

[4] *Ibid.*, speech of Austen Chamberlain, August 9, 1905.

The telephone in Great Britain will after 1911 become in fact, what it has for a quarter-century been in law, a part of the telegraph monopoly. Before speculating upon the future, let us glance back over the past. We recall the comment of the *Economist* in 1880: "It will depend upon the promptitude and energy with which this [the telephone] and similar improvements are made generally available whether the ultimate verdict upon the telegraph monoply will be that it has justified its existence, or that, as a barrier to progress, it ought to be abolished." Are we ready for the ultimate verdict? Granting that the telephone in Great Britain is not as generally available as it should be, must we now conclude that, in the light of the experience of the past twenty-five years, the telegraph monopoly has not justified its existence, that it has been a barrier to progress?

I think not. The management of an industry in the most progressive manner is, perhaps, the point at which State enterprise, even when it commands the talents of capable administrators, guided by the best intentions, and supported by an honest and efficient civil service, is most likely to fail. The story of the British telephone episode on its face appears to illustrate this weakness of the policy of government ownership. Yet it should be borne in mind that the government was not perfectly free to meet the situation which confronted it in 1880. The telegraph had been acquired at a bad bargain, and became a financial incubus that greatly hampered the government in its treatment of the new invention. Moreover, it happened that the Postmaster-General of the day was an economist of the old school, with a strong bias towards free competition that made him more reluctant to adhere rigidly to the policy of a State monopoly of the means of communication than those of his contemporaries who were responsible for that policy or any of his suc-

cessors from the next generation would have been. Experience has shown that the government made a mistake in declining to do in 1880 what the course of events at last forced it to do in 1905. But that mistake is not conclusive as to the question at issue. Unfortunately, however, it caused a long postponement of the day when the policy of government management might be given a thorough trial. It was not until the settlement of 1905 that the State was again in a situation to bear the whole responsibility for the development of the telephone in the British Isles. It is still too early to render the ultimate verdict.

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CO-OPERATION IN THE APPLE INDUSTRY IN CANADA.

DURING the past seven years, and more particularly during the seasons of 1904 and 1905, a very interesting series of experiments in co-operation have been carried on in the apple-growing industry in Canada. The form in which the principle has been applied is not entirely new, nor has it been confined to Canada and the apple industry alone. The fact, however, that some of the choicest apple-growing districts in the world are in Ontario, Quebec, and Nova Scotia,—not to mention the increasing importance of British Columbia as a fruit producer,—and the phenomenal success that has attended the employment of the co-operative method, in transforming a branch of agriculture that was worse than profitless to one of the best paying departments of the farm within a period of less than eight years, render the phase that has developed in Canada a suitable subject for separate observation, especially as at least some share in the result may be attributed to governmental propaganda. That there has been some doubt as to the precise extent to which the co-operative principle, pure and simple, is responsible for the progress of the past few years, and to what degree it has depended upon other questions of detail and method, adds an element of complexity that does not decrease the interest of the subject. At the present time the movement has reached a stage that appeals to the observer of economic and industrial phenomena from other than a purely local or business point of view.

To understand aright the circumstances under which co-operative apple packing and selling had its origin in Canada, it will be necessary to refer briefly to the history of the apple-growing industry and to the varying con-

ditions that have prevailed during the past half-century in the market for Canadian apples; the more so as it is perhaps the most hopeful symptom for the permanence of the good results achieved by the co-operative method that the movement for its adoption came in the way of a natural development, and was, in fact, the remedy which the industry itself evolved for abuses which had threatened it with extinction.

The original planting of apple-trees in Ontario was with a view to the personal use of the farmer and the demands of the local market. In the nature of things, the orchard was an early department of the farm to receive attention; and for a number of years, while the country was being opened up and population steadily increasing, no one branch of agriculture yielded a more profitable return for the money and labor expended. During the process of land-clearing and settlement the planting of a small orchard became as much a matter of course in the establishment of a farm as the cutting of the timber or the erection of buildings. Orchards multiplied apace. The inevitable result followed: with the slackening of active immigration and of continuous expansion in the local demand, the pressure of overproduction began to be felt, and by the year 1865 apples became practically valueless in thousands of Ontario orchards, including more particularly those that were situated at a distance from the larger centres of population.

Another feature, which, tho of little importance at this stage, had later a considerable influence on the course of the industry's development, was the manner in which the varieties to be grown were selected by the early planters. This was at first largely at hazard. The unscrupulous tree agent was much in evidence, and confusion and admixture of varieties followed him everywhere. High-priced novelties were his stock in trade, and the farmer his ready victim. As a rule, however, the aim of planters was to select with a view to covering the entire season from early harvest to late winter; but, as orchards were as yet

small in size, comparatively little attention was paid to the matter. Moreover, the inducements for individuals to become experts in apple-growing were but few. Natural conditions were very favorable; insects and fungous diseases were at first not numerous; and, as long as the local demand absorbed the entire product, the multiplicity of varieties was an advantage. With the failure of that market, however, all was changed, and the features which had proved the most profitable while the market was at the doors of the industry were found to be the most damaging when an outlet had to be sought through a different channel.

Deprived of a sufficient local market for his product, the Canadian apple-grower was compelled to seek another in the foreign trade. The price received in Great Britain was at first very low; but the fruit in time found a ready sale, being classed in those early years with American apples, and sold as such. Gradually a footing was established on an independent basis, and the buying of apples in Canada for the British market became a business of considerable importance. In the eighties, for example, it had reached an average aggregate value of from four to five million dollars annually. With the change in market, also, other changes of a most fundamental character were involved, affecting not only the destination, but the method of growing, packing, and shipping the fruit. The first change to be introduced was in regard to the arrangements under which the fruit was packed and marketed. For a few years the apples had been bought by the dealers in barrels ready for shipment. The inexperience of the average farmer, however, in packing and grading the fruit, and the difficulty of inspecting a large number of small lots, led to an entire alteration in the method of buying. Henceforward the apples were bought on the trees, the buyers organizing gangs of pickers and packers who proceeded from orchard to orchard until the crop was gathered. During the first few years the farmer furnished board and lodging for these gangs. Later even this slight connection

between the growing and the forwarding of the fruit was discontinued.

Results which were much more far-reaching than the above in their effect upon the industry followed the introduction of Canadian apples upon the foreign market. The orchard once more became a very profitable department of the farm. New plantings again began to be made, and the younger orchardists, profiting by the experience of their predecessors, exercised much greater care in the selection of varieties. These were for the most part limited to three or four proved favorites of the foreign consumer. At the same time the size of orchards was greatly increased. Originally, from three to four acres had been the ordinary extent of plantings; but under the new conditions this was enlarged, until from twenty to thirty acres constituted the average orchard. When, however, this increase in acreage, stimulated by the profits of the revivified industry, came into bearing, the experience of the sixties was repeated, the foreign demand being more than met in the very way that the local market had been overstocked some twenty-five years before. For a number of seasons the price of apples, except in years of scarcity, fell so low that the crop met practically no market. The culminating point came in 1896, with the phenomenal American and Canadian crop of that year, when, according to authoritative estimates, over seven million barrels of apples in Ontario alone gave absolutely no immediate return to the grower.

One feature of the situation at its worst may be noted here,—that the waste of fruit was much more pronounced in the case of the older and smaller orchards than in those limited to three or four varieties and of greater area. This was the natural result of the changed conditions above referred to, under which the loss of time involved in moving the gangs of pickers and packers from orchard to orchard was reduced to a minimum, and the preference given therefore to growers having the largest lots to offer. In any case the expense of harvesting fruit is relatively very high, and its importance in the apple industry may be appreci-

ated when it is stated that in 1904 many thousands of barrels were bought at fifty cents per barrel, whereas it frequently cost no less than forty-five cents per barrel to pick and pack the same apples. In the older orchards, also, in which varieties covering the whole season were grown, numerous visits would have been necessary in order to gather them at their proper stage of maturity. Hence a heavy source of loss, in years in which the buyers included the older orchards in their operations, was the waste which resulted from picking apples either before or after they had properly ripened. In no case, however, was there any complaint as to the quality of the fruit grown in the older orchards; and it was practically for the above-mentioned reasons alone that whole sections of the finest apple-growing districts in the world were gradually abandoned by the trade or were handed over to irresponsible and unscrupulous buyers, whose usual method was to secure the confidence of the grower in one year in order to rob him more effectually in the next. It was small wonder if interest in the improvement or even preservation of orchards was wholly lost, or if in some instances the axe was actually laid at the root of the trees.

It was to solve this problem—a problem which threatened the mere existence of thousands of small orchards, and consequently the entire apple-growing industry throughout a large section of the country—that the co-operative method suggested itself as a means of securing for the product of small plantings some of the more important advantages enjoyed by the larger growers.

The beginning appears to have been somewhat as follows: a number of owners of small orchards, finding themselves unable to dispose of their fruit to the buyers, conceived the idea of combining their product on an independent basis, with the object of increasing the size of their shipments, and thereby securing a reduction in transportation charges. Under the original arrangement, one of the growers undertook, at the common expense, the work of finding a market for the fruit, and the co-operative principle, however un-

consciously or tentatively, was launched. In just what locality the idea first took root is undecided. Tho a great step in advance, this solved only one of the many difficulties of the situation,—a high freight rate. Among the disadvantages which it possessed was the very serious one of not providing for uniformity in the grading of the fruit. Without this good prices were unobtainable, and the interests of the several growers were really as individualized as ever. It was the necessity for the adoption of a fixed standard of quality that led to the next step,—the establishment of a central packing-house. With this, and the consequent necessity of property held in common, a more formal association was required. It was found, in the case of Ontario, where the added definiteness of aim that would be secured by incorporation was first appreciated, that legislation sufficiently comprehensive in character was already on the statute books of the province, in the form of a measure passed in 1900 to provide for the incorporation of co-operative cold storage associations. The act, as its title implies, was framed for a somewhat different purpose than that to which it was now applied. As a matter of fact, only one of the associations that have been subsequently formed under its provisions has engaged to any extent in the business of cold storage, though there are evidences that this branch may receive more attention in future, in connection more particularly with the cooling of apples prior to their shipment. The act, however, had the advantage of a low fee, and the safeguards defining the duties of members and officers, the holding of meetings, the method of transacting business, were regarded as at least for the time sufficient; so that, when certain sections of the measure became by the lapse of time inoperative, new provisions were inserted in their stead, at the instance of the apple-growers, and no legislation of a distinctive character demanded.[1]

[1] The Ontario act "to provide for the incorporation of co-operative cold storage associations," requires, in the first place, that not less than five persons must make application by certificate for incorporation. The object which an association framed under its terms must have in view is the carrying on of the business of

Up to the close of 1905 the total number of co-operative apple packing and shipping associations in existence in Canada was in the neighborhood of twenty. The oldest dates from 1894, and the three most extensive and successful ones, whose example has been perhaps of the widest influence in extending the movement, from 1897, 1898, and 1902, respectively. More than half of the number, however, have been organized within the past two years. In 1905, notwithstanding the short crop, some six were formed, and during the spring season of the present year seven entirely new associations were in process of organization, with a view to the crop of 1906. In British Columbia, in particular, the results of the past two years have greatly stimulated the movement, and three associations have been organized to date. The aggregate membership throughout Canada is probably in excess of 1300; and in 1905 approximately 10 per cent. of the apple shipments,—which range in value from $2,000,000, to $4,500,000, according to season—bore the stamp of the co-operative associations. Not all of the associations have taken advantage of the opportunity to

storing fruits, dairy products, animal products, canned goods, evaporated or dried vegetables, and similar food products, and the purchase, sale, or disposal of the same. Before operations are begun, the association must agree upon a set of rules for the regulation and management of its business, setting forth the mode of convening general and special meetings, provisions for the auditing of accounts, the power and mode of withdrawal of members, and the appointment and duties of managers and other officers. The liability of shareholders is limited. The fees for filing certificates, and for any search relating thereto, are placed at 50 cents and 10 cents, respectively. Provision is made for the settling of disputes between members by arbitration, the procedure with regard to which must be set forth in the rules of the association. The association is given power to hold lands, and to sell or otherwise dispose of the same. Mortgages may also be executed upon the property of the association, but must be approved by a vote of two-thirds in value of the shareholders, to be given by by-law passed at a special meeting of the association. The act also provides that a grant in aid of an association may be made by the government, the sum not to exceed one-fifth of the cost of the construction and equipment of any building erected for cold-storage purposes, and in no case to exceed $500. (*Ontario Statutes*, 1900, chap. 26; 1905, chap. 18.) It may be added that as yet no application for assistance, under the act, has been made. A specimen set of rules has been drawn up by the government, and may be had on application. In British Columbia two associations have been incorporated under the Farmers' Institute Act, a section of which authorizes the formation of co-operative societies for various specified objects, upon application of ten *bona fide* farmers, each to hold not more than 10 per cent. of the stock of the society, of which 25 per cent. must be subscribed at the time of making application. A full statement of the affairs of the association must be made annually to the Provincial Secretary.

become incorporated. During the past year five of the Ontario organizations were operated on the responsibility of the managers alone. But the tendency has been in favor of incorporation, and the Dominion government has lent its influence in this direction. Another feature of management which has particularly received the encouragement of the government has been the principle among the associations of making their membership as inclusive as possible, taking in as many of the growers of the district in which operations are carried on as might choose to apply for admission. Certain of the associations, however, have limited their membership to those who applied originally for incorporation or who first completed the organization, tho considerable quantities of fruit grown by other than members have been packed and shipped. In the latter cases the fruit has been purchased as a business venture, pure and simple, and to this extent, at least, the transactions of the associations have been distinguishable only in details of method from those of the ordinary buyer. Nova Scotia, it may be added, has one association, operating in the rich and famous valley of the Annapolis. In this way, altho the valley of the St. John River in New Brunswick, the island of Montreal in Quebec, and the justly celebrated fruit belt lying to the north of Lake Ontario, in Ontario, have remained outside of the immediate influence of the movement, a very large percentage of the best apple-producing regions of the Dominion have admitted the leaven of the co-operative principle.

Turning now to examine in more detail the exact nature of the problem with which co-operation has had to deal in the apple industry in Canada, it will be found that, altho conditions have varied somewhat with locality, the objects which it was necessary to secure were eight in number, as follows:—

1. Uniformity in packing.
2. The most economical methods of picking and packing.

3. The picking, packing, and shipping of each variety when at its best.

4. The manufacture or wholesale purchase of baskets, boxes, barrels, and other packages.

5. The placing of the purely commercial part of the industry in the hands of competent men, whose interests might be directly coincident with those of the other members of the association.

6. The stimulation of interest in the improvement of the product among the less progressive fruit-growers.

7. The sale of fruit at the point of shipment.

8. The utilization of surplus or inferior product.

Taking up each of the above in turn, it will be of interest to notice the method pursued and the degree of success attained by the associations in their employment of the co-operative method.

1. Uniformity of packing, as above stated, has been successfully secured by the adoption of the central packing-house system. Under this method all fruit is carefully conveyed in spring wagons directly to the packing-house, which is usually located on a railway siding. An expert gang of packers are here employed to sort the apples into grades, labelled 1, 2, and "culls," respectively, according to quality. Credit is given to the grower accordingly, and the fruit is at once passed into the common stock, receiving the brand of the association. The packing and store houses of several of the associations are leased, and, altho in a few instances more or less expensive plants have been erected and equipped with cold storage and refrigerating facilities, the great majority of the associations may be said to have conducted their operations with little or no expenditure on capital account.

2. The picking is done by the grower, it having been demonstrated that the grower, under normal conditions, can do the work more cheaply than any one else. He is in a position, moreover, to note carefully the proper time at which the apples should be gathered, and it is to his

interest to do so with the least possible injury to fruit and trees. Not the least of the disadvantages of the system of picking by gangs under the direction of the buyers was the roughness and carelessness with which the work was done, and the resulting damage to the future productivity of the orchard, which depends almost entirely on the preservation of the delicate fruit buds.

3. As above stated, the picking of the several varieties at their proper stage of maturity is left, to a certain extent, at the discretion of the grower. In order to secure a market for each class of fruit, however, the manager of the association keeps an inventory of the varieties grown by each of his patrons, and from time to time requires an estimate from them as to the quantity of each variety that will probably be available. In this way he is in a position to make sales and guarantee deliveries with a degree of precision that was previously impossible in the industry. As the fruit matures, it is picked at the order of the manager, and packed and shipped to its destination when at its best. It not infrequently happens that the owners of small orchards have, in the case of several varieties, only a very few barrels at their disposal. These under the old system were almost invariably wasted, as it did not pay to pick and ship in small lots. The Colvert, for example, is a variety of which a few are grown on almost every farm. It is of excellent quality, and the tree is hardy and prolific, but, as it is early and somewhat tender, farmers previous to the formation of co-operative associations found it of little or no value except for home use. Under co-operation the variety is among the most profitable grown, and the saving under this heading alone has been very material.

4. There are few industries in which the package plays so important a part as in fruit. The average fruit-dealer pays over 20 per cent. of his gross income for packages, and it is not uncommon for the buyer of apples to pay more to the cooper for his barrels than to the grower for the fruit to fill them. The price of apple barrels has varied from season to season in Canada, and in many years has

been by common consent too high. During the past year, for example, from thirty-five to forty cents apiece was paid, or more than millers paid for first-class flour barrels, tho the apple barrel is manufactured from the cull staves and other discarded material of the flour barrel. The explanation for this anomalous state of affairs is to be found in the situation that had developed in the apple trade in the closing decade of the past century. The character of the men who were engaged in it over a large portion of Canada was such that the coopers were never sure of payment for their barrels, even on a thirty day basis. It was exceedingly unsafe, moreover, to accept large orders for barrels, as, if the crop proved short, a number were almost invariably left on their hands. It was their practice, accordingly, to wait until the demand was assured before beginning manufacture for the season's operations. The result was that they were forced to buy stock where they could get it most rapidly, irrespective of price and quality, and to make it up under great disadvantages as to wages, shop and store room, and the supply of skilled labor, all of which were reflected in the prices that were quoted to the dealer. It will be easily appreciated how radical were the changes in these respects introduced under the co-operative method. In addition to the possession of irreproachable credit, the manager of a co-operative association has, as described above, the most accurate means that could be devised for gauging the extent of the crop. He is thus enabled to place an order early in the season for a fixed number of barrels, and, if he discovers later that his estimate has been excessive, little inconvenience is caused, as he has plenty of store-room, especially during the winter, for any barrels that may be left over. The cooper, under these circumstances, is able to cut prices to a narrow margin, as his payment is sure, and he has plenty of time to secure good stock at favorable prices, and to make it up during the slack season, when a supply of the most skilled labor is available at the lowest wages. At least two of the associations have gone further than this, and have organized

a coopering establishment as a part of their equipment. The result was in one case to lower the price of barrels by 25 per cent. in one year, amounting to a saving of $500 on an output of five thousand barrels, or enough in itself to meet a large portion of the running expenses of the average association.

5. By the appointment of a manager thoroughly conversant with market conditions and with the commercial operations more particularly pertaining to the business end of fruit-growing, perhaps the chief advantage possessed by the buyers under the old régime was met and overcome. Henceforth the element of trading risk was minimized, and the profits previously absorbed by the middleman were diverted into the pockets of the growers. While it is impossible to reduce this source of saving to a definite calculation, undoubtedly the gain has been very great.

6. Under the old method the buyer had no interest whatever in a particular orchard except in the fruit itself. He visited the orchard only during the process of picking, and his personal connection ceased when the fruit was harvested. He was under no obligation of a pecuniary nature to assist farmers to grow better apples, least of all if his assistance involved the investment of money, inasmuch as there was no certainty that he would be operating in the same neighborhood another year. On the other hand, the manager of a co-operative association has every incentive to spend both time and money among his patrons in improving the quality of their stock. He has the same patrons year after year. His interests and business reputation are bound up with theirs, and, in consequence, every suggestion he can make with a view to improvement is put forward as promptly as he may consider it judicious to do so. Among the associations which have been longest in the field a number of features of good orchard practice have, as a result, been systematically introduced. Power spraying outfits have been secured by the associations almost without exception, and the work of spraying carried on much more effectively and cheaply than by individuals.

Pruning, clean culture, covering crops, and even thinning have also followed as a result of co-operation.

7. Until the past few years a very large portion of the apples produced in Canada has been disposed of by commission merchants, it being very difficult, from the nature of the fruit business, to reach the foreign dealer by a more direct method. At the same time it has been felt that there are certain abuses of the commission system which are apt to become prevalent when fruit is the commodity to be disposed of. Being notably very perishable, there can be no change in arrangements after it has once left the grower, and the consignee in the majority of cases has the consignor at his mercy. It is impossible also that there should be a satisfactory audit of the commission agent's books, the grower being situated thousands of miles distant from the agent who has the handling of his product. Tho no charges of systematic fraud have ever been made, suspicion has been felt at times that the shipper has not in every instance received the full profits of his sales. For example, fruit sold ready for shipment in Ontario at $2.25 per barrel, and shipped to the British market at an additional cost of $1.00 per barrel, has been known to be sold to the consumer in England at $6.00 per barrel. A discrepancy of this extent between the buying and selling price must be the result either of exceedingly bad business methods or of fraud. So long, however, as the quantity of fruit which a particular buyer had to offer was small, there seemed no possible way of avoiding this method of securing sales. The co-operative associations, however, from the outset resolved to adopt the rule of sending nothing on consignment. Prices were quoted, unless under stress of special circumstances, f. o. b. at the shipping point, and in a comparatively short time, with the reputation for uniform quality which the goods of the associations speedily acquired, the buyers of Great Britain, instead of depending for their supplies upon the commission agents, began to send their representatives across the Atlantic, as they could well afford to do, to buy direct from the accumulated stocks of

the associations. The method has proved eminently satisfactory. During the past two seasons many of the associations have sold their entire output to large English fruiterers, who in turn sold direct to the consumer, and the abolition of the previous system to this extent is felt to have rendered a very decided service to the apple industry in Canada.

8. As already pointed out, it had frequently happened that in years of abundance millions of barrels of Canadian apples were either wasted or fed to stock. While a great part of this waste has been avoided by the adoption of the methods already described, it is inevitable that a certain quantity of fruit each year should either fail to meet a suitable market or, from defects in the quality demanded by the foreign consumer, should be left upon the growers' hands. The utilization of this surplus product is a problem in itself, and it will be easily seen that, properly managed, it might be made to involve a substantial profit. Under the old method the ordinary fruit-canning or evaporating factory could not deal with it satisfactorily. As the growers sold their product outright and on the trees to a new buyer every year, it was impossible for them to retain control of their waste and surplus fruit, or guarantee a fixed supply such as would justify the establishment of a canning or evaporating factory in the neighborhood. The case, however, was entirely altered when the fruit was handled by a co-operative association having a stable quantity of fruit to dispose of from year to year, and with storage facilities whereby it might be kept cheaply and safely until needed. It seems fair to assume, therefore, that, even under circumstances in which an independent canner might be expected to fail, a factory conducted in connection with a co-operative packing and shipping association would have a fair chance of success.

On the whole, the outlook for the success of co-operation in the apple industry is vastly more favorable than for any other experiment of the kind under trial in Canada during the past several years. The plan is being accepted with

enthusiasm in many of the best fruit-growing sections of the country, in spite of the distrust and exclusiveness that so often characterize the farmer. Its advantages, indeed, have been clearly demonstrated, and are best illustrated by the fact that on the rare occasions on which shipments have been sent by the associations on consignment they have decisively beaten all competitors in the open market. Even as a purchaser, the association is preferred by the independent grower to the individual buyer. In a larger way the factor that has chiefly militated against co-operative undertakings in Canada, as in all new countries,—the mobility of the industrial population,—is minimized in the case of an industry like fruit-growing, which presupposes years of development and a fixed stake in the community. Many plans are in the air as to the future of the movement. A union of the different associations operating in Ontario has been formed within the past three months with a view to regulating output and markets. This is decidedly in the way of taking time by the forelock, for as yet no competition or trade rivalry has arisen between the members. The one contingency that might have compelled it—a glut in the market—has been indefinitely postponed by the work of the associations in cheapening production and improving the quality of the fruit. For good fruit there is always a market, and it is chiefly the inferior grades that in years of abundance have proved a source of loss. Considerations, however, of an immediate and practical kind rather than far-off aims and objects are at present engaging the attention of co-operative packers in Canada. That the industry will be given a new lease of prosperity under the influence of the new method seems at present in every way assured.

R. H. Coats.

"The Labour Gazette."
Ottawa, Canada, July 1, 1906.

NOTES AND MEMORANDA.

SELIGMAN'S PRINCIPLES OF ECONOMICS; A REPLY AND A REJOINDER.

To reply to a book review is usually a task as unprofitable as it is ungracious; but the note in the August number on my *Principles of Economics* is of such an extraordinary character, and deals at bottom with questions of such moment to the discipline in general, as to compel some rejoinder.

The review unfortunately starts with a misconception. The very first sentence reads, "Professor Seligman's volume is designed to be a text-book." This is a mistake. It is not primarily intended to be anything of the kind. My object in writing the book was to give in compact shape a survey of the entire field of Economics (as distinct from Finance) for the average intelligent reader of mature years who might be interested in the general subject, and to restate the principles of the science in a form that might be in harmony with recent progress in economic thought. In most of the reviews this has been clearly recognized; and it is a source of regret that Professor Taussig should have separated himself to such an extent from virtually the whole mass of other critics as to put the emphasis on the wrong aspect. The only book in the English language of the last twenty years which has endeavored to cover the field of Economics without being designed primarily as a text-book is that of President Hadley; and the time had seemed to come to attempt the task anew. If incidentally the volume should prove serviceable as a text-book, it would naturally be a source of gratification. But to review it as representing something which it was not primarily designed to be involves, to say the least, a serious misconception.

As Professor Taussig has, however, chosen to discuss it only in that aspect, this rejoinder will attempt to meet him on his ground. The strictures of the first few pages of the review deal with a consideration of the order in which the topics are presented. This entire criticism can be brushed aside very lightly for the reason that the question of arrangement is largely a matter of individual choice. It is indeed true that there is no order which is entirely free from objections. Economics is like a circle, and almost wherever we touch it we find that we might have reached the centre equally well from some other point. Were it worth while, numberless illustrations might be given of the fact that there is scarcely a single topic found in the older text-books which could not with equal or greater propriety be discussed somewhere else. Much as all the recent works on economics—from Marshall to Fetter—differ from each other, they are all agreed that the older arrangement of topics, to which Professor Taussig so tenaciously clings, is bad.

There is, however, one consideration which the experience of years has impressed upon me. Professor Taussig says very truly, "Our subject offers peculiar opportunities for training people to think." But for economics to be of any use, even to the "youths and maidens" of whom Professor Taussig speaks, it is important to approach it from the correct point of view. To regard economics simply as a logical discipline is to commit the mistake which brought some of the so-called classical economists into deserved disrepute, and which with even some writers of to-day converts the science into a field of logical legerdemain and hair-splitting subtleties. Surely, it is far better to lead the student up to an appreciation of the fact that in economics, as in all other social sciences, the present is a child of the past, and that no economic analysis is worth having unless it is an outgrowth of actual rather than hypothetical phenomena and unless it is applicable to conditions as they really exist. This is the justification for prefacing the discussion of principles by a presentation

of the historical development and by a consideration of the general framework of society within which the specific tendencies known as economic laws are at work. Having tried both methods, I am free to say not only that the order of topics suggested in the book makes the subject a far more interesting one to the students, but also that it succeeds in giving a concreteness to the exposition which cannot be so well attained in any other way. Whereas students were formerly repelled by the apparent unreality of the whole subject, they are now attracted, and are encouraged to pursue their studies farther. My own experience, reinforced as it is by that of other academic teachers, shows that to regard economics primarily as a logical discipline and thus to neglect the point of view is to rob the science of half of its interest and usefulness.

All these points, however, being matters of individual preference on which one teacher's word may be deemed as good as another's, would not have sufficed to call forth this rejoinder. Nor is this the place to devote any time to Professor Taussig's next point, which is concerned with my agreement in part with some of Professor Clark's theories. Professor Clark is quite capable, if so disposed, of taking care of himself and of the misconceptions of his thought in which the criticism abounds. I should like to observe, however, that to object to a book because it accepts some conclusions which the critic "finds difficulty in following" may be more damaging to the critic than to the conclusions in question. A distinguished predecessor of Professor Taussig in the same university—Professor Agassiz—"found difficulty" in following the views of Darwin; and every belated defender of outworn doctrines finds equal difficulty in adjusting his mental perspective to a new horizon. Unfortunately for Professor Taussig, the current of modern economic opinion is overwhelmingly in the direction which he deprecates.

Professor Taussig's chief grievance with the book, however, is that it contains some passages where "either the reasoning is at fault or else the exposition so brief that it

is impossible to make out just what the reasoning is." This is a more serious indictment.

The first alleged instance is the rather technical passage where it is said that "if in the case of five apples the marginal utility of each is five units of satisfaction, that of the stock will be five times five, or twenty-five; but if in the case of eight apples the marginal utility of each falls to three, that of the stock will be eight times three, or twenty-four. Yet the total utility of eight apples is certainly more than that of five." Professor Taussig triumphantly asks, "Do we apply the notion of marginal utility to a stock, or measure total marginal utility as distinguished from total utility?" If "we" denotes Professor Taussig, the answer is probably "no"; but, if "we" denotes the economists who have grasped the real meaning of marginal measurement, the answer is unquestionably "yes."

Surely, it is not so "difficult" to "follow" the proposition that we can take any unit from a stock, measure its marginal utility, put it back and take another for a similar measurement, proceeding in the same way until we have measured all the units by the marginal test. Manifestly this would give an aggregate made up of marginal utilities, and this aggregate is best termed the marginal utility of the stock, which is the basis of value. The marginal utility of a stock is therefore a phrase intended to designate the utility of the marginal unit multiplied by the number of units. Whatever name we apply to this form of utility, it is something quite different from the total utility of a stock; for this is reached by adding together the utility of the various increments considered not as marginal units, but as successive units. We can measure utilities in either way, but only in the case of the total utility of a stock is there any question of consumers' surplus in the earlier increments. Total utility and consumers' surplus, however, play no rôle in affecting value and price. To the extent that economics deals with problems of value, the real criterion is the marginal utility of the commodity or the stock. Where there is a large crop of wheat, for instance, the total utility of

the stock—that is, its efficacy in satisfying the hunger of the community—is indubitably greater than that of a smaller quantity; but the marginal utility of the stock—*i.e.*, the aggregate of the utilities of all the units, each considered in turn as the marginal one—may be smaller than before, and the value or price of wheat will, in that case, fall.

What shall be said of a criticism which, at this late date, sees in value nothing but the ratio of exchange of a stock, and which fails to recognize that this exchange ratio measures something in the thing exchanged as well as in the other things with which it is compared? And what shall be thought of the courtesy of a criticism in making the extraordinary accusation that an author "seems to confound total exchange value with total utility" in the face of the author's categorical statement in the very same section that value is not based on total utility, and in view of the fact that on the very next page the author in question is at some pains to show that careless thinkers often confuse the two meanings of margin,—the economic and the non-economic margin. For it is inattention to this warning that is responsible for Professor Taussig's misconceptions in his criticism of the theory of value as well as that of distribution, notably his comments on wages.

About a decade ago, in an article on the theory of railway rates, where Professor Taussig labored vigorously to deny that they were in any way based on utility, he showed that he had not completely mastered the theory of marginal utility. In the intervening decade he has evidently learned to appreciate the bearing of the conception on particular units of a stock. Is it too much to hope that after another decade he may find less "difficulty" in "following" the doctrine as applied to a stock as well? The conception itself, whatever name we give it, is unquestionably as applicable in the one case as in the other, and is always to be sharply differentiated from the total utility of the stock. In fact, without this conception the whole theory of the equivalence of value and marginal utility falls to the ground.

The next point adduced by Professor Taussig is the

inclusion of the phenomenon of "dumping" under the head of joint cost. Professor Taussig objects that the theory of joint cost refers to *different* commodities, while "dumping" refers to different units of the *same* commodity. It is with great regret that I am again compelled to differ with him. There is no distinction between the two cases, so far as the theory of joint cost is concerned. Different increments of the same commodity *that finally reach the market under different conditions* are, economically speaking, different commodities and are equally subject to the law of joint cost. Professor Taussig has placed himself on record as maintaining that the explanation of railway charges is the theory of joint cost. Yet it is an egregious error to think that the putting of silk and cotton into different classes is an instance of the production of technically different commodities. What is paid for is not silk and cotton, but the service of transportation, and the *service* itself remains technically the same. The phenomenon falls under the head of joint cost, because the successive units of this same service, when applied under different conditions, become, economically speaking, different services. What is produced is a place utility, which, although technically the same, attaches in various degrees to different articles, and thus completes their production in an economic sense.

But even if it should be claimed that the product or service is technically different simply because the commodities carried are different, it need scarcely be pointed out that railways not only put different goods into different classes, but also put the *same* goods into different classes. The identical commodity pays a different rate according as it goes by fast or by slow freight, on a through or on a local tariff, in carloads or in less than carload lots; and where the railroad also conducts the express business, as abroad, according as the goods go by freight or by express. Will Professor Taussig maintain the thesis that the classification of *different* commodities is an example of joint cost, and that a similar classification of the *same* commodities is not such

an example? And, unless he takes this clearly untenable position, how can he successfully dispute the applicability of the theory of joint cost to dumping? The foreign stock may be "dumped" abroad year after year, and will then be sold permanently under different conditions from the domestic stock, just as the same commodity is carried by freight under different conditions from express; just as the identical service—transportation—is sold at different rates when applied to silk and to cotton. To any one not so strongly under the obsession of old-time ideas it is clear that the theory of joint cost is of far wider application than Professor Taussig dreams of.

After this, it is almost unnecessary to notice the second part of the paragraph in which the critic deplores such "curious" reasoning as is implied in the statement that the sale of a part of the stock abroad at lower prices does not necessarily mean that the domestic prices are for that reason higher than they would otherwise be. He asks, again triumphantly, "Does the diminution of the supply sold in the domestic market really make prices lower at home, or does it make them higher, as it is clearly meant to do" [by decreasing the supply]? Suppose the retort were made, "Will the fact that a railway puts on a new accommodation train induce it to exact a higher charge than before for the express service, because the number of express travellers is now diminished?" Yet the question would be equally pertinent, and the implication equally convincing. In fact, just as the accommodation train will cause the carrying of additional passengers who would otherwise not have travelled at all, so the habitual "dumping" or sale of products abroad at a lower price may mean the total marketing of more goods than before, at a lower price all around.

Professor Taussig proceeds, "And is there some immanent force which compels manufacturers to engage in unremunerative production?" Suppose the retort were again made, "Is there some immanent force which compels railway managers to carry coal at rates which, if extended

to all traffic, would bankrupt them?" Of course the answer to both questions is that the "immanent force" is the desire to make money. The manufacturer charges less for the goods sold abroad for the same reason that the railway charges less for coal; namely, because the traffic will not bear the higher charge,—*i.e.*, because the conditions of competition abroad do not enable him to exact a higher price. Yet as long as his foreign sales net him more than mere constant expenses, composed in large part of fixed charges, they will contribute to that extent to his variable expenses, and thus enable him to sell the domestic goods at lower prices than he otherwise could; just as the low rates on coal, although unremunerative if applied to all traffic, will make the rates on silk lower than if the coal were not carried at all. Professor Taussig has fallen into the same trap as the ordinary man who thinks that the low rates on coal are at the expense of the high rates on silk. "What becomes of our reasoning as to marginal utility?" asks Professor Taussig. Were this a case for facetious treatment, it might be said that, if the logic just adduced is "our reasoning," I am delighted to waive all claim to it in favor of Professor Taussig. Seriously speaking, however, an economics which is not a mere logical exercise, but is based on a first hand acquaintance with the practices of large business enterprises, would have taught Professor Taussig that what he criticises is a commonplace among intelligent manufacturers, and would thus have preserved him from what is, I regret to say, assuredly an exhibition of "curious" reasoning.

Finally, Professor Taussig calls attention to the "inexplicable slip" of stating that in 1900 "there were six classes of manufactured products in the United States, each aggregating over half a billion dollars in value, as against one agricultural product and no mineral product," and he gently adds that "the figures supporting the statement appear on the briefest examination to be worthless," because they give the gross value of manufactures with no allowance for materials used. With all due deference, again, it may

be asked, Why should the gross figures not be used? In fact, for the purposes of the illustration the gross figures are precisely the ones that ought to be used. The growth of manufacturing enterprise is attested by the amount of capital invested, the number of workmen, the size of the premises, the extent of the sales, etc. Manifestly, all these are apt to grow with the amount of the raw materials used; and the gross product is an excellent indication of the importance of the industry. Professor Taussig objects that "by this sort of calculation the cotton manufacture would invariably be found a more important industry than cotton growing." In all good nature, again, let me call attention to the "curious" reasoning here involved. When the South sends most of its raw cotton to Europe and the North, does the gross value of the cotton manufactures of the South exceed that of cotton growing? When the United States exported a large part of its wheat or of its pig iron, did the gross value of the flour output or of the iron manufactures exceed that of the raw materials? On the contrary, the growth of manufacturing industry is best illustrated by the extent to which raw materials are used at home in lieu of being sent abroad. The meaning of the industrial transition in the United States is that we are exporting less of our raw materials and more of our manufactures. To illustrate this tendency, the figures of gross value are the really significant ones. What is to be thought of a criticism which so wofully misconceives the very elements of the problem, and which so totally overlooks the question of domestic *versus* foreign utilization of raw material? And what shall be said as to this critic's right to accuse an author of the lack of "careful and consistent thinking"? Surely, such epithets ought not to be bandied so recklessly and on such flimsy provocation. Far from being an "inexplicable slip," as Professor Taussig has so hastily claimed, it is no slip at all, and stands in no need of explanation except to those who maintain that "cotton manufacture would invariably be found a more important industry than cotton growing."

Professor Taussig closes his genial criticism by deploring the fact, which he states "with great regret," that on the whole the book must be adjudged "not commendable for use with students." In a sense it might be called a matter of comparative indifference to me whether it is used as a text-book; for such was, as indicated above, not its primary purpose. But it must be confessed that the spread of the doctrines contained in the book is not a matter of indifference to me. And lest some, who might otherwise be tempted to read the book, may be deterred by Professor Taussig's adverse opinion, I venture, although with great reluctance, to cull two extracts from the many reviews which have treated *among other aspects* its serviceableness as a text-book. The leading scientific journal of Economics in Great Britain says in the course of a long review, "We regard the whole book as the most important and compact of aids to the diffusion of a lively and instructed interest in Economics which has yet enriched the scientific literature of the Anglo-Saxon peoples." While one of the leading economic reviews of the continent says: "Such is the work of which it is impossible adequately to praise the elevated tone, the precision and sureness of the proofs, the lucid simplicity of the exposition. In its concise form it is undoubtedly the best text-book that exists at the present time in any country of the world, without exception."

After such expressions, which I should otherwise feel much embarrassment in repeating, I am quite content to leave the question of deciding between the conflicting opinions to my colleagues. But, since Professor Taussig well remarks that in such matters "we economists ought to deal frankly one with another," I cannot refrain from making the very frank statement that an unfavorable judgment based on such unpenetrating and misplaced criticisms as those discussed above does not deserve to be taken too seriously.

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I regret to have been misled into thinking of Professor Seligman's book as primarily a text-book. Possibly others also have been misled. It has no preface or explanatory statement from the author; and it has an apparatus of bibliography and references (very good ones) of the kind one expects in a text-book. The publishers systematically put it on the market as such, and in their advertisements (I have before me one of their circulars) state that it is "intended *not only* for the college student," but for others also. I am in entire agreement with what Professor Seligman says as to the desirability of keeping our treatment close to the actual facts, and of not regarding economics "simply as a logical discipline"; nor am I aware of having said or implied anything to the contrary.

I will say nothing on the question of general competence, on which Professor Seligman touches, but will confine myself to a few words on some of the specific topics discussed by him, and with these will close the controversy.

(1) "Total marginal utility" seems to me either a superfluous phrase or an inaccurate one. If the utility or satisfaction from each unit of a given stock is believed to be the same, total utility is easily measured, the number of units being multiplied by that constant. This is not my own view, but it is a tenable one. Total utility is then measured perfectly by exchange value; there can be no difference between total utility and "total marginal utility"; and the latter seems to me a superfluous phrase. If, on the other hand, the utilities from the several units of a stock are believed to be different,—if some are thought to yield more satisfactions than others, and thus to bring a consumer's surplus,—total utility is not measured by exchange value. This is my view: I believe there is such a thing as consumer's surplus, even tho it is not susceptible of precise measurement. In this view, there is no such thing as total marginal utility. The term "marginal utility" is applicable only to the utility of the last unit, or of any one unit; I cannot conceive what is then meant by total marginal utility.

That my understanding of the doctrine of marginal utility

is different from Professor Seligman's is impressed on me by a passage in that very discussion of the economic and the non-economic margin to which he refers in his reply. He says (*Principles*, p. 178): "When the supply is limited, the diminishing utility of each increment will be arrested at a point below which the consumer will prefer to abandon the use of an increment for something else. The margin here is a margin of indifference between an increment of one commodity and an increment of another commodity. Since these increments are not necessarily the same, the margin of indifference may be reached at a point where the tenth increment of one commodity balances the twentieth of another, where, in other words, *the marginal utility of the first commodity is twice that of the second.*"[1] To me it seems plain that the marginal utility of the first commodity is precisely equal to that of the second. The satisfaction yielded by the tenth increment of the one is the same as the satisfaction yielded by the twentieth of the other; marginal utility is the same, and exchange value will be the same. *Ex pede Herculem!*

(2) As to joint cost and railway rates, Professor Seligman's rejoinder is a *tu quoque*. Here, he says, are commodities or services not of different kinds, but of the same kind, and to these I had myself applied the principle of joint cost. But are they the same? True, we apply to them a general phrase, saying that transportation always yields a "place utility." But these place utilities are by no means homogeneous. They are obviously different (as it seems to me) in passenger service from what they are in freight service. And, again, they are different for different kinds of freight service. All carriage of freight has a derived or indirect utility, resting on the utilities of the consumable goods or direct utilities that will eventually emerge. The utility of coal transportation is derived from that of the coal when it reaches its destination; the utility of a fast-freight fruit service is derived from that of the fruit at

[1] Professor Seligman, on my calling his attention to this passage, stated that the words *first* and *second* had been by accident transposed, and that these words would appear in the reverse order in later editions of his book. But otherwise he retains the passage as it stands.

destination. In the language of the business world, what the railway can charge for the coal and the fruit depends on what these articles will sell for when they reach the market.

It is not to be supposed, nor had I maintained, that the principle of joint cost explains *all* the peculiarities of railway rates. My paper on this subject is entitled "A Contribution to the Theory of Railway Rates,"[1] and expressly disclaims telling the whole story. Thus, the difference between carload and less than carload rates, to which Professor Seligman refers, seems to me to have nothing to do with the principle of joint cost. It results from the simple fact that operating expenses are less per unit of freight when the car is full than when it is half full; when the freight comes in masses than when it comes in driblets. Classification, again, rests partly on the element of joint cost, partly on differences in operating expenses. Railway rates represent not a simple case of joint cost, but one complicated by other economic factors; tho I still believe that the influence of joint cost ramifies into almost all phases of this problem.

Professor Seligman apparently thinks that any industry having a large plant presents a case of joint cost. To me it seems that where a single commodity (*e.g.*, steel rails) is produced, even tho with large plant, the special causes influencing value under joint cost do not operate. The single commodity will be sold in a free market at one uniform price. Deviations from that price result from restrictions on freedom,—tariff duties and monopoly. But where two or more different commodities are inevitably produced together (*e.g.*, cotton fibre and cotton seed), whether with large plant or not, the prices at which each one will be sold will depend on the conditions of demand, *i.e.*, of marginal utility, for each separately.

(3) Dumping seems to me associated with monopoly conditions. Part of a supply may be sold abroad at a price that will meet prime cost, or current expenses, only. The rest of the supply must then be sold, in the long run, for more than total cost., *i.e.*, for more than current expenses

[1] In this *Journal*, vol. v., April, 1892.

plus fixed charges. The object of course is to gain from the extra profit on the domestic sales more than is lost on the foreign sales. Temporarily, in times of depression, even the domestic sales may be at less than total cost, or at no more than total cost; in which case the object of dumping is not so much to make an extra profit, as to diminish a loss from ill-advised or unfortunate production, by keeping down the domestic supply and keeping up the domestic price. In neither case can the domestic price be kept up, or the object attained, except by a combination, tacit or formal, of the domestic producers. That dumping is expected by those who practise it to make domestic prices lower, or that it leads to this result in fact, seems to me quite inconsistent with the facts.

(4) As to the statistics of manufacturers which I criticised, Professor Seligman seems to me partly to shift his ground. In his book I find no other explanation of them than that which I cited: they are offered to prove that "there were in 1890 six classes of manufactured products, each aggregating over half a million of dollars in value, as against only one agricultural product and no mineral products." In his reply he maintains still that "the gross product is an excellent indication of the importance of the industry," but adds another and a different explanation,—they are supposed to illustrate the fact that "we are now exporting less of our raw materials and more of our manufactures." Let the reader glance at these figures, which I reproduce in full as they appear in Professor Seligman's book (p. 105):—

Iron and Steel	804[1]	Carpentering	316
Slaughtering and Meat Packing	790	Woolen Manufacture	297
Foundry and Machine Shop,	645	Tobacco Manufactures	263
Men's and Women's Clothing	575	Boots and Shoes	261
Lumber and Timber	567	Malt Liquors	241
Flouring and Grist Mills	561	Cars	238
Printing and Publishing	347	Leather	218
Cotton Manufacture	339	Masonry	204
		Bread and Bakery	204
		Lead Smelting and Refining,	176

[1] The figures stand for millions of dollars of gross product in 1900.

Look at such items as Slaughtering and Meat Packing, Men's and Women's Clothing, Flouring and Grist Mill, Bread and Bakery, Carpentering. Do these figures of gross product give an "excellent indication of the importance of the industry"? Iron and Steel are credited with a product of 804, Foundry and Machine Shop with 645, while on the same page, under "Minerals," Professor Seligman gives Pig Iron with a product of 260. Are all three figures excellent indications of the importance of the industries? Figures of gross product are serviceable in comparing a given industry at one date with the same industry at another date; thus, in comparing the cotton manufacture in 1900 with the cotton manufacture in 1890. But they are misleading in comparing for the same date two very different industries, or sets of industries; thus, in comparing the Cotton Manufacture with cotton-growing, or Men's and Women's Clothing with wheat-growing. These identical comparisons are suggested on the same page of Professor Seligman's book, where cotton appears as a farm product with an output of 323, and wheat with one of 369. But even on his new ground — as to our exporting less of raw materials and more of manufactures—the figures, in my opinion, signify nothing. Why does Men's and Women's Clothing appear? Because we are exporting anything of the sort? What is the significance of Bread and Bakery, Printing and Publishing, Masonry, with reference to our imports and exports? Why does the Woolen Manufacture appear with a product of 297, no allowance being made for the wool used? Because we formerly exported wool? Professor Seligman knows that wool has never been exported from the United States. The simple fact is, I believe, that Professor Seligman, or some assistant of his, copied hastily from the Statistical Abstract and other familiar sources the figures that seemed large. Was it going too far to call them worthless?

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RECENT PUBLICATIONS UPON ECONOMICS.

Chiefly published or announced since August, 1906.

An asterisk prefixed to a title indicates a second and more detailed notice of a book announced in a previous number.

I. GENERAL WORKS. THEORY AND ITS HISTORY.

BRIDELY (E.). La théorie de la monnaie au XIV^e^ siècle. Nicole Oresme. Paris: Giard et Brière. 1906. 8vo. 15 fr.

CLARK (J. B.). Economics. New York: Macmillan. A text-book. [Announced.]

DURKHEIM (Émile, et collaborateurs). L'année Sociologique. Neuvième année (1904–1905). Paris: Libraire Félix Alcan. 1906. pp. 624.

EFFERTZ (Otto). Les antagonismes économiques — Intrigue, Catastrophe et Dénouement du drame social. Paris: V. Giard et E. Brière. 1906. pp. 566.

[The latest translation added to the Bibliothèque Internationale d'Économie Politique. Studies the conflict of public with private interest under the régime of private property.]

FISHER (Irving). The Nature of Capital and Income. New York: Macmillan. 1906. pp. 427. $4.

[A noteworthy contribution to economic theory, elaborating the author's views, and illustrating them by ingenious statements of accounts. An appendix discusses technical topics, among them mathematical formulæ.]

GIDDINGS (F. H.). Readings in Descriptive and Historical Sociology. New York: Macmillan. [Announced.]

HASBACH (W.). Güterverzehrung und Güterproduktion. Jena: G. Fischer. 1906. pp. 95. 2.40 m.

KAULLA (Rudolf). Die geschichtliche Entwicklung der modernen Werttheorien. Tübingen: H. Laupp. 1906. pp. 379. 6 m.

[An exhaustive investigation of theories of value, from Aristotle to Menger, Jevons, and Marx. An extremely valuable monograph.]

LAUGHLIN (J. Laurence). Industrial America (Berlin Lectures of 1906). New York: Charles Scribner's Sons. 1906. pp. 256. $1.25.

[A series of lectures upon American competition, protectionism, the labor problem, the trust problem, railway regulation, banking problems, and the present status of economic thought in the United States.]

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schichte der Methodologie in der Wirthschaftswissensch. Bern: A. Francke. 1906. pp. 71. 1.60 m.

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MAYR (Dr. Georg von). Begriff u. Gliederung der Staatswissenschaften. Zur Einführung in deren Studium. H. Laupp'schen Buchhandlung. 1906. pp. 130.

[A second enlarged edition of this valuable essay; useful for the views of the author and its bibliographical notes.]

MILLS (Herbert Elmer). Outlines of Economics: A Syllabus for Introductory Study. Poughkeepsie: Enterprise Print. 1906. pp. 69.

PHILIPPOVICH (Dr. Eugen von). Grundriss der politischen Oekonomie. Erster Band. Sechste Auflage. Tübingen: J. C. B. Mohr (Paul Siebeck). 1906. pp. 430. 10 m.

[An enlarged and revised edition of this important treatise.]

RAPER (C. L.). Principles of Wealth and Welfare. New York: Macmillan. 1906. pp. 336. $1.10.

[A text-book for high schools.]

RUHLAND (G.). System der politischen Oekonomie. 1 Band: Allgemeine Volkswirtschaftslehre. 2 Band: Entwickelungsgeschichte der Völker. Berlin: Puttkammer & Mühlbrecht. pp. 410. 12.50 m.

SCHAEFFLE (A. E. F.). Abriss der Soziologie. Mit Vorwort von K. Bücher. Tübingen: H. Laupp. 1906. pp. 266. 4 m.

[This summary of the author's views, based on a series of articles in the Zeitschr. f. d. Gesammte Staatsw., had been partly completed by him before his death. The second uncompleted part has been revised by Professor Bücher, who contributes an appreciative introduction.]

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A. S. and E. M. S. Henry Sidgwick: A Memoir. London, New York: Macmillan Co. 1906. pp. 633. $4.

[An admirable memoir: valuable to economists as well as students of philosophy.]

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WARD (Lester F.). Applied Sociology. Boston: Ginn & Co. 1906. pp. 384.

[A continuation of the author's system of sociology. Part I. treats of Movement; Part II. of Achievement; Part III. of Improvement.]

*WAXWEILER (E.). Esquisse d'une sociologie (Instituts Solvay). Brussels: Misch et Thron. 1906. pp. 306.

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GRIBBLE (Francis). John Stuart Mill. Fort. Rev., Aug., 1906. [A description of Mill's personality.]

GUSTI (D.). Gabriel Tarde. Eine Skizze zur Wiederkehr seines Todestages. Jahrb. f. Gesetzg., 1906, Heft 3.

HOXIE (R. H.). The Demand and Supply Concepts: An Introduction to the Study of Market Price. Journ. Polit. Econ., June, July. [An elaborate theoretic paper, in two parts, in which time is considered "an independent commodity," and time, quantity, and price are sought to be correlated.]

LANDRY (A.). Un économiste méconnu: Otto Effertz. Rev. d'Écon. Pol., Aug.–Sept. [Summary and critique of the work of an insufficiently known writer.]

LORIA (A.). Marshall and Edgeworth on Value. Econ. Journ., Sept. [A brief note on Marshall's discussion of the indeterminateness of barter values. Loria concludes that sale necessarily leads to determinate value.]

PARETO (V.). L' ofelimità nei cicli non chiusi. Giorn. degli Econ., July.

PIGOU (A.). The Unity of Political and Economic Science. Econ. Journ. [Unity is found as to the underlying mental facts, the reaction of demand and supply, the effects of monopoly, and maximum satisfaction.]

SMALL (A. W.). The Relation between Sociology and Other Sciences. Amer. Journ. Sociol., July. [Coupled with Vincent's article in the same magazine.]

STEINMETZ (S. R.). Bedeutung und Tragweite der Selektionstheorie in den Sozialwissenschaften. Zeitschr. f. Socialw., July, Sept.

VINCENT (G. E.). Varieties of Sociology. Amer. Journ. Sociol., July. [A paper of general and elementary nature, read before the Sociology Club of the University of Chicago.]

ZWIEDINECK-SÜDENHORST (O. v.). Neuere Literatur über die Lohnfrage. I. Zur Kritik der Lohngesetze. Archiv f. Socialw., Vol. 23, Heft 2. [A critical review of works by Diehl, Salz, Bernstein, Clark, and Bolen.]

II. THE LABOR PROBLEM.

AUERBACH (F.). Les procédés techniques et les institutions sociales de la fondation Carl-Zeiss à Jéna. Une nouvelle organisation sociale. Paris: Giard et Brière. 1906. 2 fr.

BELLOM (M.). Les lois d'assurance ouvrière à l'étranger. Vol. III. Assurance contre l'invalidité. Paris: Rousseau. 1906. pp. 716. 18 fr.

BRABROOK (E., Sir). Building Societies. London: P. S. King. 1906. pp. 160. 1s.

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COMMUNE DI VENEZIA. Case sane, economiche, e popolari. Venice. 1906.

[The report of a commission appointed to investigate the housing problem, of which Professor Orsoni was the secretary. An important contribution; illustrated with numerous plates.]

FROMONT (L.-G.). Une expérience industrielle de réduction de la journée de travail (Instituts Solvay). Brussels: Misch et Thron. 1906. pp. 120.

[A valuable account of the results of the introduction of the eight-hour day in a large Belgian establishment. The results have been generally favorable.]

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INGEGNIEROS (J.). La législation du travail dans la république Argentine. Paris: Cornély. 1906. 3 fr.

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[An exhaustive, classified bibliography upon co-operation in all its phases. Of great value.]

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juridique. Paris: Roustan. 1906. pp. 145. 4 fr.
[A discriminating study of the laws of Australia and New Zealand.]

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[Inthe series already noted: see under Bossellmann in bibliography for May.]

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[Deals extensively with the commercial effects of competition of convict-made goods.]

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WAGNER (M.). Die deutsche Arbeiterversicherung. Ihre Entstehung und Weiterentwickelung. Berlin: A. Troschel, for "Die Arbeiter-versorgung." pp. 321. 5 m.

WALTZ (H.). Die Lage der Orchestermusiker in Deutschland. Karlsruhe: G. Braun. 1906. pp. 132. 2.40.
[In Volksw. Abhandl. der badischen Hochschulen.]

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ATHERLEY-JONES (L. A.). The Story of the Labour Party. Nineteenth Cent., Oct., 1906.

CANTONI (C.). I cotonieri italiani ed i recenti scioperi. Riforma Soc., June. [An open letter by the president of the Italian Cotton Manufacturers' Association.]

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GALLINA (F.). Capitale e lavoro in un consorzio obbligatorio per gli zolfi di Sicilia. Riforma Soc., June.

GÖBEL (H.). Zur Handhabung des Koalitionsrechtes in Deutschland. Archiv f. Sozialw., Vol. 23, Heft 1. [A commentary on paragraph 152 of the Reichsgewerbeordnung.]

GROAT (G. G.). The Eight-hour Movement in New York. Polit. Sci. Quart., Sept. [More especially on legislation, judicial decisions, and the recent constitutional amendment.]

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III. SOCIALISM.

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[The author is a German assessor.]

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[The third edition of this voluminous history. The first edition appeared in 1897.]

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[The author is professor at the Frankfurt Academy.]

In Periodicals.

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BORTKIEWICZ (L. v.). Wertrechnung und Preisrechnung im Marxschen System. I. Archiv f. Sozialw., Vol. 23, Heft 1. [This first article deals with critics of MARX.]

COHN (E.). Die politische Arbeiterbewegung Frankreichs in den letzten Jahren. Archiv f. Sozialw., Vol. 23, Heft 2. [The article is followed by an account of recent literature on French socialism.]

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[In Conrad's Abhandlungen.]

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GIVSKOR (Erik). Home Industry and Peasant-farming in Belgium. Contemp. Rev., Sept., 1905. [A gloomy picture.]

GREGOIRE (A.). Les stations agronomiques aux Etats-Unis. Rev. Écon. Intern., Aug.

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SELLA (E.), PRIORE (G. O.), and PREZIOTTI (A.). Le condizioni economiche dei contadini nell' Umbria. Riforma Soc., Aug. [This consists of two studies of local agrarian conditions, preceded by an introduction by Sella, the director of the Perugian economic-agrarian laboratory, the first of the kind in Italy.]

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V. POPULATION AND MIGRATION.

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LANDA (M. J.). Alien Transmigrants. Econ. Journ., Sept. [Most aliens arriving in Great Britain merely pass through; the recent Aliens Act, "ill-conceived and ill-digested," will cause other routes to be sought, to the injury of British shipping.]

LOCH (C. S.). Statistics of Population and Pauperism in England and Wales, 1861-1901. Journ. Roy. Stat. Soc., June. [On relation of pauperism, classified by age-groups, to movements of population.]

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tinued Chinese Exclusion. No. Amer. Rev., July.

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[An exhaustive legal treatise, with introduction on legal and economic history. Book I. is on the Characteristics and Duties of a Common Carrier; II., on Railroad Rate Regulation under the Common Law; III., on Legislation, including detailed consideration of the Interstate Commerce Act and its amendments in 1906, questions of constitutionality, and State statutes. The authors are professors in the Harvard Law School.]

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[A careful study of the economic and legal aspects of the case. Contains original documents.]

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[In Schanz's Wirtsch. und Verwalt. Studien. The first part of this monograph has already been published.]

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[Highly valuable to economists as well as engineers. Treats excellently of economic as well as engineering problems; and stands alone in its field.]

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CARLILE (W. W.). Railway Economics and the Free Trade Principle. Econ. Rev., July, 1906. [Criticises British handling of Capital Account, and compares it unfavorably with the American policy. Of no great value.]

HAMMER (P.). Haftung der Eisenbahnen bei Verletzung und Tötung von Personen. Ann. des Deutsch. Reichs, 1904, 9. [Considers provisions of law of 1871.]

MCVEY (F. L.). Subsidizing Merchant Marines. Journ. Polit. Econ., June. [Considers not only subsidies, but naval regulations

and commercial influences; maintaining that subsidizing affects only a small part of the problem.]

MEYER (H. R.). The Disastrous Results in Italy of State Railway Building. Journ. Polit. Econ., June. [A brief article, based on secondary sources, maintaining that unprofitable railway construction has prevented the remission of burdensome taxes.]

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VII. FOREIGN TRADE AND COLONIZATION.

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GIUFFRIDA (V.). Protezionismo marittimo e credito navale in Italia. Giorn. degli Econ., July.

GRIFFIN (W.). The Canadian Manufacturers' Tariff Campaign. No. Amer. Rev, Aug. [Reply to Mr. Porritt's article in the April issue of the same periodical. Represents Canadian manufacturers as favoring preferential relations with England and protection against the U.S.,—not in retaliation, but for industrial development.]

MATLEKOVITS (A.). La nouvelle ère de la politique douanière. Rev. Écon. Intern., Aug. [Review of current international customs agreements.]

MOHR (P.). La politique coloniale française. Rev. Écon. Intern., Aug. [A study of French colonial policy from a German point of view.]

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SCHOOLING (J. H.). Our Position in Colonial Markets. Nat. Rev., June, 1906. [Assembles statistics to show that England is losing ground in the markets of her colonies because of the lack of Preferential Trade Agreements.]

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[A text-book of the subject divided into numbered principles, cases, corollaries, and problems.]

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KEELER (B. C.). The Quantity Theory of Money. Moody's Mag., Sept. [Followed by a symposium to which contribute G. M. Coffin, H. Farquhar, I. Fisher, E. W. Kemmerer, M. L. Muhleman, A. J. Warner.]

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ischen Grundlagen des Geldwesens. Jahrb. f. Gesetzg., 1906, Heft 3.

KORN (E.). Die Technik der Bankdepotgeschäfte. Ann. des Deutsch. Reichs, 1906, 7 and 8. [Considers German law and practice.]

LEXIS (W.). Eine neue Geldtheorie. Archiv f. Sozialw., Vol. 23, Heft 2. [A discussion of Knapp's Staatliche Theorie des Geldes.]

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SCHUMACHER (H.). Die Ursachen und Wirkungen der Konzentration im deutschen Bankwesen. Jahrb. f. Gesetzg., 1906, Heft 3.

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IX. FINANCE AND TAXATION.

BERNSTEIN (Ed.). Die neuen Reichssteuern, wie sie wurden und was sie bedeuten. Berlin: "Vorwärts." 1906. pp. 64. .30 m. [This pamphlet by the well-known socialist has a concluding chapter on "Agrar-kapitalistische und sozial-demokratische Steuerpolitik."]

BOELCKE (M.). Die Finanzen in Sachse-Weimar von 1851 bis zur Gegenwart. Jena: G. Fischer. 1906. pp. 173. 4 m. [In Conrad's Abhandl.]

ENDRUCKS (B.). Die Besteuerung des Wandergewerbes in den deutschen Bundesstaaten. Leipzig: A. Deichert. pp. 152. 3 m. [In Schanz's Wirtsch. und Verwalt. Studien.]

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GERLACH (O.). La réforme des impôts en Prusse. Rev. de Sci. et de Leg. Fin., IV., 2 and 3. [These articles examine the working of the Prussian income and supplementary taxes, and describe the changes introduced by the law of June, 1906.]

———. La réforme des finances de l'empire allemand. Journ. de Sci. et de Lég. Fin., IV., 3. [A valuable article on German imperial finance; reviews the movement of the debt, expenditures, and revenues of the empire since 1871; and explains the recent plans for reform, particularly the tax on successions.]

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[The author is the well-known "Christian socialist."]

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POHLE (L.). Das Verhältnis zwischen Einkommen und Miete. Zeitschr. f. Socialw., Sept.

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My article upon the "Taxation of Corporations in Massachusetts" omits to mention the fact that in 1906 a change was made in the rate of taxation for corporations subject to the franchise tax. Hereafter the rate is to be the average of the annual rates levied upon property throughout the Commonwealth during the three years preceding that in which the assessment is made. Ch. 271 of 1906, sects. 9 and 12. The change was made for the convenience of the Tax Commissioner, who had found it impossible to secure data for the current year in time to compute the rate for the franchise tax. C. J. B.